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Acting Editor *Ivy Davison*

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Australia's Cities

by ARNOLD L. HASKELL

Today our thoughts and sympathies are more than ever with our cousins in the great Dominion on the other side of the globe. Mr Haskell, writing of his experiences as a visitor, gives a personal impression of her fair and thriving cities in the days of peace

Australians often tell visitors to their country that the true Australia is not to be found in the cities, just as the Americans say that New York is not America. In one sense the Australian is right. For the cities exist on the wealth of the stations, forest and mines, and 'the outback' has bred a remarkable type of man, strong, capable and self-reliant. But in another sense he is wrong. For the cities contain the greater part of the population and some of these town-dwellers have never even been nearer the outback or seen more of the bush than is found in a National Park!

The history of the Australian city is a history of the rapid development of all that is finest in a modern democracy. If the visitor will take the trouble to provide himself with some background of social history he will find as much to interest him in Melbourne as, say, in Rome, and even more inspiration, because Melbourne stands for the future. It is time for the Englishman to abandon the notion that the Australians are magnificent fighters, cricket enthusiasts, and nothing much else. To get a sounder view he should study both Australia's past and its cultural present, which, he will find, have many points in common with those of his own country.

To stimulate such a study I will attempt a brief description of some of Australia's chief cities. It must be understood that my generalizations are personal, and that they are more impressionistic than reasoned though they have been confirmed by experience.

Perth, capital of Western Australia, nestling on the banks of the Swan River, is serene; that is the first word that strikes the visitor from England once the drabness of Fremantle has been left behind; but it is the serenity of youth that does not know defeat, and not that of old age. Immediately one notices the pleasant homes with their trim gardens, differing from an English suburb in the brightness of the flowers and in the much clearer Australian light. At first it is the resemblance with home rather than the difference that makes an impression, partly by contrast with the exotic ports of call between Tilbury and Fremantle, but mainly because the original settlers have tried to produce a 'home-from-home' and to bring with them as many concrete reminders of the 'old country' as they could. The Australian city can be as hot as any in Spain but the siesta is unknown, and so, unfortunately, is the open air café. Save in Brisbane the hottest weather does not bring any tropical kit into the streets. There is less bustle than at home, more lounging by far; next to the Russian, the Australian has the least sense of time of anyone I know.

The core of Perth is the dignified business centre that one sees in any big city, so that one is surprised to find how soon the city gives place to bush. Tamed, it is true, but still a magnificent sample of the Australian scene at its finest. A few minutes from the busy streets and we are miles away from any reminder of Europe. This is truly another continent, the most primitive of all. Trees, shrubs, flowers, grasses, of a form and colour that are incomparable. This is not the meadow or downland that we know from experience, nor the dank, luxuriant tropical jungle that we know through book and film, it is just Australian bush, and that will be a full enough description to any one who has visited the continent.

Perth's free University is one of the finest examples of architecture in Australia, the successful adaptation of a European style to an

Dorien Leigh

Perth, capital of Western Australia, has the serenity of youth and in its streets there is less bustle than you would find in an English city and more lounging. Its core is the business centre and its University contains some fine examples of Australian architecture

Australian setting, a step further from the 'home-from-home' ideal of the original settler, which is seen at its worst in a type of 'ye olde' street that is a prominent Perth exhibit. A fuller amplification of this fine adaptation can be seen in the great hall of the University where the decoration makes ingenious use of aboriginal design. The Australian aboriginal has a flair for design. This design, used for the first time in Perth University, will play a big part once it has been fully understood. The ethnographical sections of Australian museums are rich in artistic inspiration for future generations, quite apart from their scientific value.

Adelaide, capital of South Australia, is admirably planned, a small city conceived on a grand scale by its founder Colonel Light —and it deserves to be called 'Light' for more than one reason. Never did a city have healthier lungs. At the end of every street there is an uninterrupted vista to the country beyond. Adelaide is completely harmonious; of all the cities I have visited it is the one that seems to me the most desirable at the present moment. It has about it an air of unostentatious prosperity, the sense of values one associates with a University town. It was of South Australia that Governor Grey coined the phrase 'The New Anglo-Saxondom'. It seems particularly appropriate in Adelaide.

There is much to be seen in and around Adelaide. First the museum with an exceptionally fine collection of aboriginal relics, including the stone carving of a crocodile. Here also one can gain an introduction to Australian impressionist art, a school of painting that marks the cultural coming-of-age of

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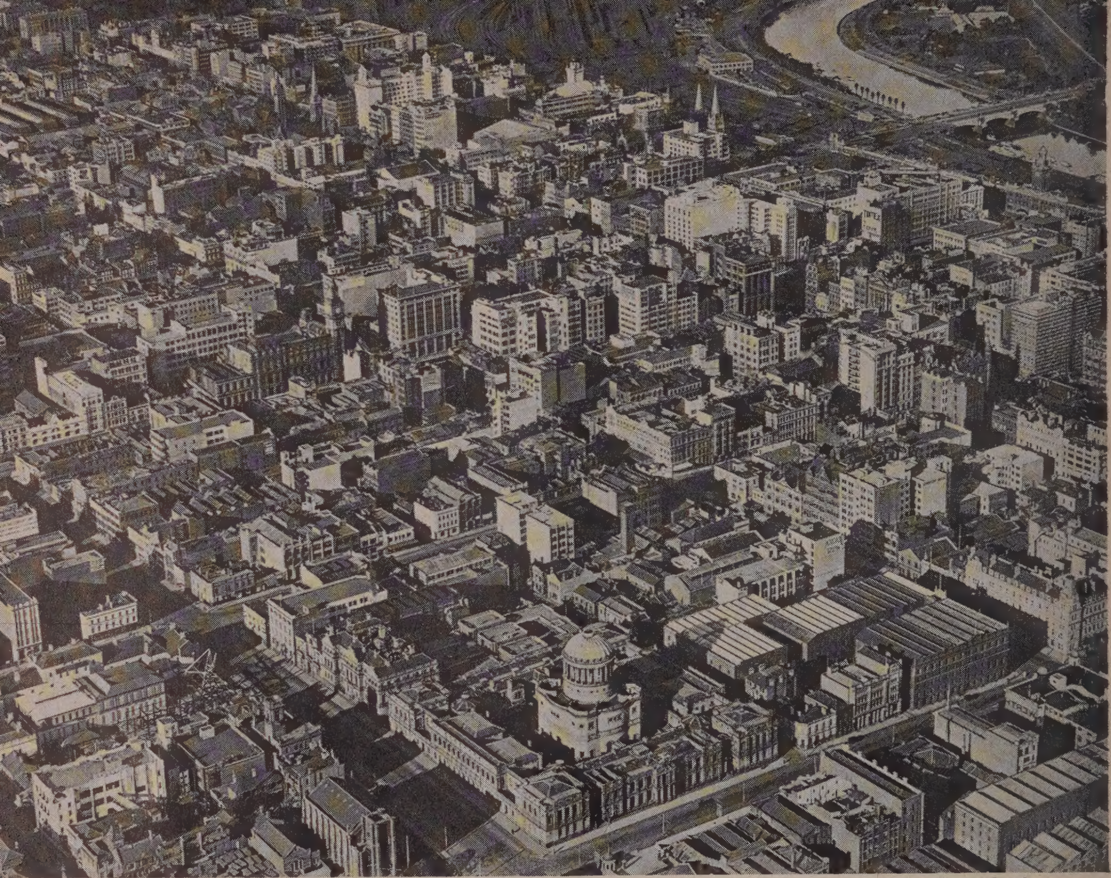
Bridge over the Torrens River in Adelaide, capital of South Australia. Admirably planned, it is a small city conceived on a grand scale with an air of unostentatious prosperity and a sense of values one associates with a University town

Australia, when the painter discarded from his palette the colours of Europe and saw for the first time his country as it really was.

Melbourne is usually described by contrasting it with Sydney, to the annoyance of both cities which are in all things rivals. The description runs usually something like this: Melbourne is English, Sydney American—which is true only in a superficial sense since both are completely Australian. Melbourne is solid, the home of the Australian Forsyte who can be seen entering the dignified Melbourne Club at any time of day, or seated at the window, looking over his paper into Collins Street instead of Piccadilly. This same Collins Street is one of the most beautiful boulevards in the world; only in Paris or Washington can its equal be found.

Melbourne entertains at home, and those suburban homes are solid, prosperous and dignified. They have none of the skittish ostentation of Hollywood, though they have their bathing pools. Yet Melbourne is never obvious. Of all the Australian cities it is the most difficult to know, the most elusive. It grows on one in a way that very few entirely modern cities do. And Melbourne is new, brand-new. Just a hundred odd years ago in place of its fine streets there were bullock tracks and unhealthy swamps. The story of Melbourne is one of the most inspiring in British history; the names of Batman and Fawkner who founded it should be known to every schoolboy.

Once a year for a week Melbourne goes gay and becomes the meeting-place of the continent. That week is Cup Week, which might



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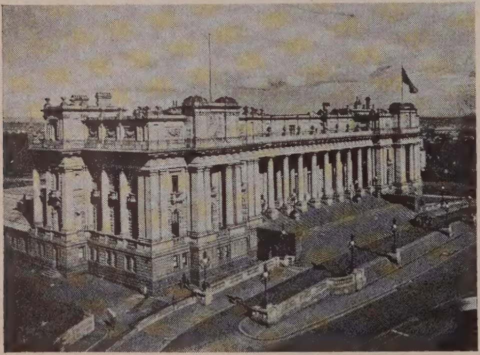

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Aerial view of Melbourne, a new solid city containing in Collins Street one of the most beautiful boulevards in the world. The smaller picture shows Melbourne's State Parliament House. (Opposite) *Melbourne's river, the Yarra, with the Henley Regatta in full swing*

be described as a combination of our English Derby, Ascot, May Week and a carnival. Melbourne is always the centre of Australian racing, during that week in November it becomes the centre of Australian fashions, and the Australian women are as well dressed as any. Even the squatter leaves his lonely station and becomes a dandy; city and outback meet, gamble, drink and dance. Then it is that one realizes the smallness of Australia; everybody is at Flemington, and 'everybody' means a considerable proportion of those who can afford such pleasures, and many who cannot. Anyhow, what does it matter? The Australian spends his money freely.

Melbourne too has its tamed bush near at hand, the Dandenongs, Mount Macedon and other resorts where the picnicker is always on the verge of what Marcus Clarke, in his descriptive prose poem of the Australian scene, called "The Grotesque, the weird, the strange

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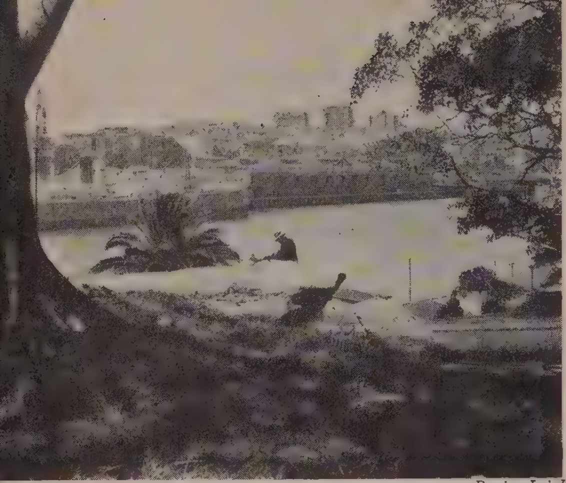
scribblings of Nature learning how to write".

How good those Australian picnics are! Chops cooked above that most useful bush utensil, the kerosene tin, while the billy boils; a mixture of steam and eucalyptus smoke drifting lazily upwards in the heat of the day.

Sydney reveals itself at once as a city on the coast, the Pacific coast; not so much one as a combination of many cities. It is a busy industrial centre, a pleasure resort with a multitude of surfing beaches, while at dawn or dusk each cove takes on the appearance of some small fishing settlement, a Portofino. Sydney also has a feeling of age that no other Australasian city except Hobart possesses. Its fifty extra years count for more. Here Australia was founded and underneath the hilly and winding streets one can sense the bullock tracks. One can feel its gradual, almost accidental growth round 'the finest harbour in the world'. A planned city in that setting might have avoided many mistakes, it would also have lost much of its charm, and Sydney for all its size has infinite charm. It is gay and carefree. It is the only city in Australia that has a night and café life. The resorts are the stereotyped night clubs of any great city, for no advantage has been taken of climate and site. But the drive home in the early morning is the true justification of a 'night out' in an expensively appointed cellar.

I have not yet mentioned 'our bridge'. I have been guilty of no injustice. It has been over-publicized. A marvellous feat of engineering, a mass of bewildering statistics, an essential highway, it is all these things, but it cannot add to the beauty and grandeur of the harbour, and only at night when it is a bridge of twinkling lights, a giant arch of stars does it truly belong to the scene. 'Our harbour' has



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(1) A skyline impression of Sydney; (2) its famous harbour which has so much variety that every passer-by stops to ponder; (3) Argyll Cut, one of those smaller streets which give the city its distinctive character and link it with the past. (4) Another old corner containing some of the palm trees that abound. (5) The Anzac

so much variety that even the octogenarian Sydneyite does not take it for granted, but pauses many times a day in admiration.

On board ship a passenger won first prize at the fancy-dress ball. He appeared bandaged and with blackened eyes, bearing a placard, "I did not admire their harbour".

And here once more is a city surrounded by wild life and infinite space; National Park, Bulli Pass, the Blue Mountains, today a playground, a hundred years ago the haunt of aborigines, the field of the intrepid explorers who made an Empire; for the explorer was to Australia what the conquering general has been to Europe. The generals are known to the fourth-former, but what sixth-former knows Blaxland or Sturt, Flinders, Eyre or Hume or even Phillip, the Founder himself? Mighty men all.

Brisbane is unlike the other cities, it is climate-conscious, the gateway to the tropics. The man in the topee may still be an exception, but he does not look ridiculous as he would in Sydney. The large verandahed houses too are tropical, perched on stilts with metal plates between stilt and base of house to stop the march of the white ant. And everywhere are long shady avenues of jaca-

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Pictorial Press

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Memorial in Sydney's Hyde Park. (6) The bridge over the Harbour photographed at the moment when the spans met and a fine feat of engineering was completed. (7 and 8) Two views of Australians at play—on Sydney's Bondi Beach at the peak hour of popularity, and camping in the outskirts of a city

randa, poinciana, poinsettia, cascara and bougainvillaea, a blaze of bright colour and where they shed their blooms a soft carpet of flowers. No city in Australia is better served in shade and beauty, and city fathers in Australia understand these things. There is in Brisbane as in Perth a feeling of excitement and adventure, of youth. Beyond the cities lie states of enormous potential wealth and the city is still just a little bit the frontier town. The people are more independent, prouder and more outspoken than in the larger cities.

Right out in the country, miles away from the proud Town Hall, there is a sign 'CITY LIMITS'. Brisbane, sprawling round the S bend of its river, has faith in itself and its future, knowing that some day it will be 'queen over lands indeed'.

Tasmania is off the European visitor's beaten track, though to the Australian tourist it is as accessible as Devon and it is the only Australian State that immediately suggests an English counterpart, Devon. To a certain extent man has altered the natural landscape; the gum has been thinned out to make way for the imported apple, oak and other English trees and there is a moisture unknown on the continent. For a few hundred yards at a

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(Left) *A view in the Blue Mountains which form part of the 'infinite space' which surrounds Sydney.* (Right) *Street in Brisbane, 'gateway to the tropics' with long shady avenues and a youthful atmosphere*

time this is England, an England of a more leisurely agricultural past and in Tasmania one can feel the past and understand the early Australia as nowhere else. Sydney has taken on several layers of modern ways; there is history in the Domain, in the old Barracks, at Elizabeth Bay House, but cinemas and modern flats intervene, while in Hobart, capital city, there is the feel of the old cathedral town. Never in any city have I felt so much as if I were in England, so much in the past, although the setting of Hobart is grandiose with its harbour and its brooding Mount Wellington.

If I have left Canberra, Federal capital, till last, it is because it is easy to forget Canberra, the magnificently incomplete. The cities I have written about just 'happened'; Canberra is a hot-house flower, the artificial product of the jealousy between Sydney and Melbourne. It is as vast as a World's Fair, as desolate as that fair before its opening. It has wide streets and little traffic, rows and rows of neat houses inhabited by the neatest-minded of all classes, civil servants. When its million imported flowering shrubs are in bloom it is a magnificent flower show; in time it will be a magnificent city, but it will never be picturesque or charming. It may represent the dignity of Federal Australia but not the sturdy devil-may-care independence of the pioneer who lugged his furniture onto the beaches and then began to build his cities, who planned a village and founded Melbourne or who made Sydney out of a police settlement. Canberra is the true city without a background of history.

Yes, we owe it to Australia to learn something of her cities and of the background of those magnificent men who are great fighters because they have a great past and a still greater future with a major rôle to play in the wealth both commercial and cultural of mankind.

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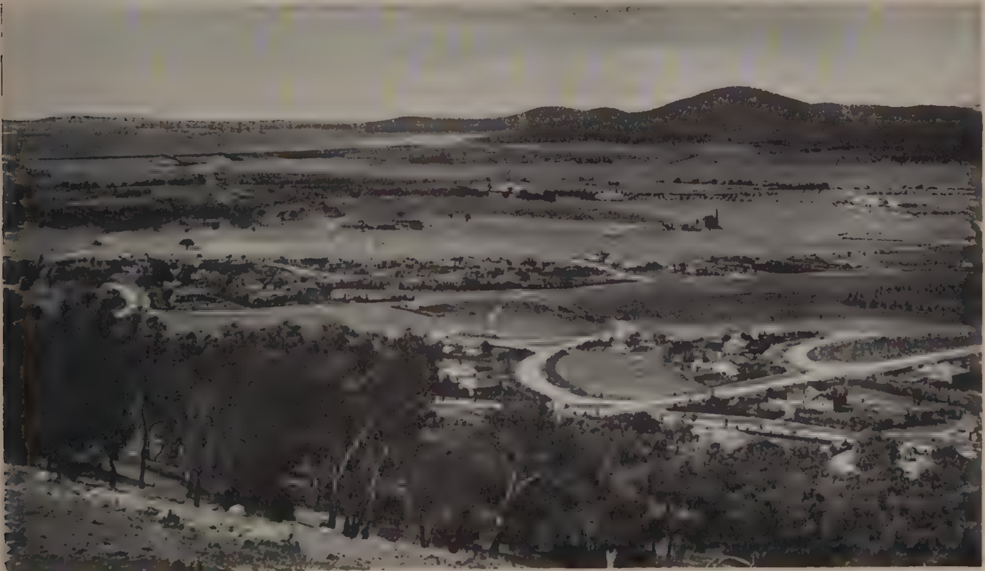
(Above) *The harbour, Hobart. More than other Australian cities it has a feeling of England and of continuity with the past.* (Below) *Canberra, magnificently incomplete, the capital of the whole Commonwealth, represents the dignity of Federal Australia rather than the sturdy devil-may-care independence of the pioneer*



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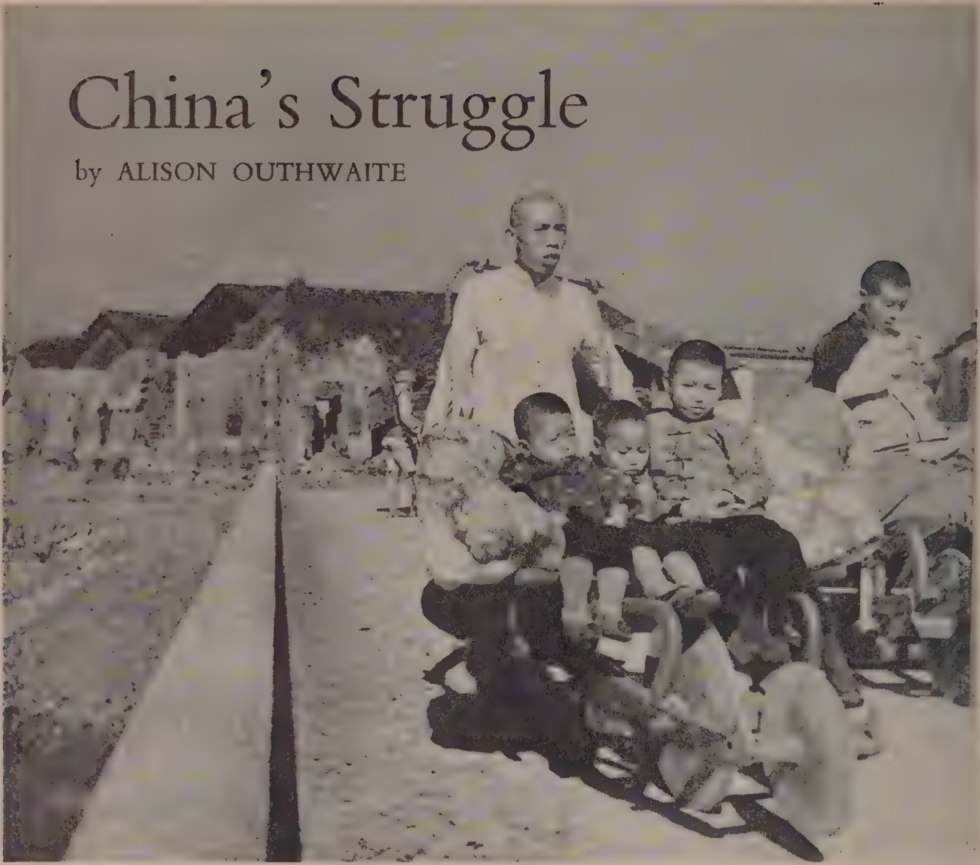
China's Struggle

by ALISON OUTHWAITE



Pictorial Press

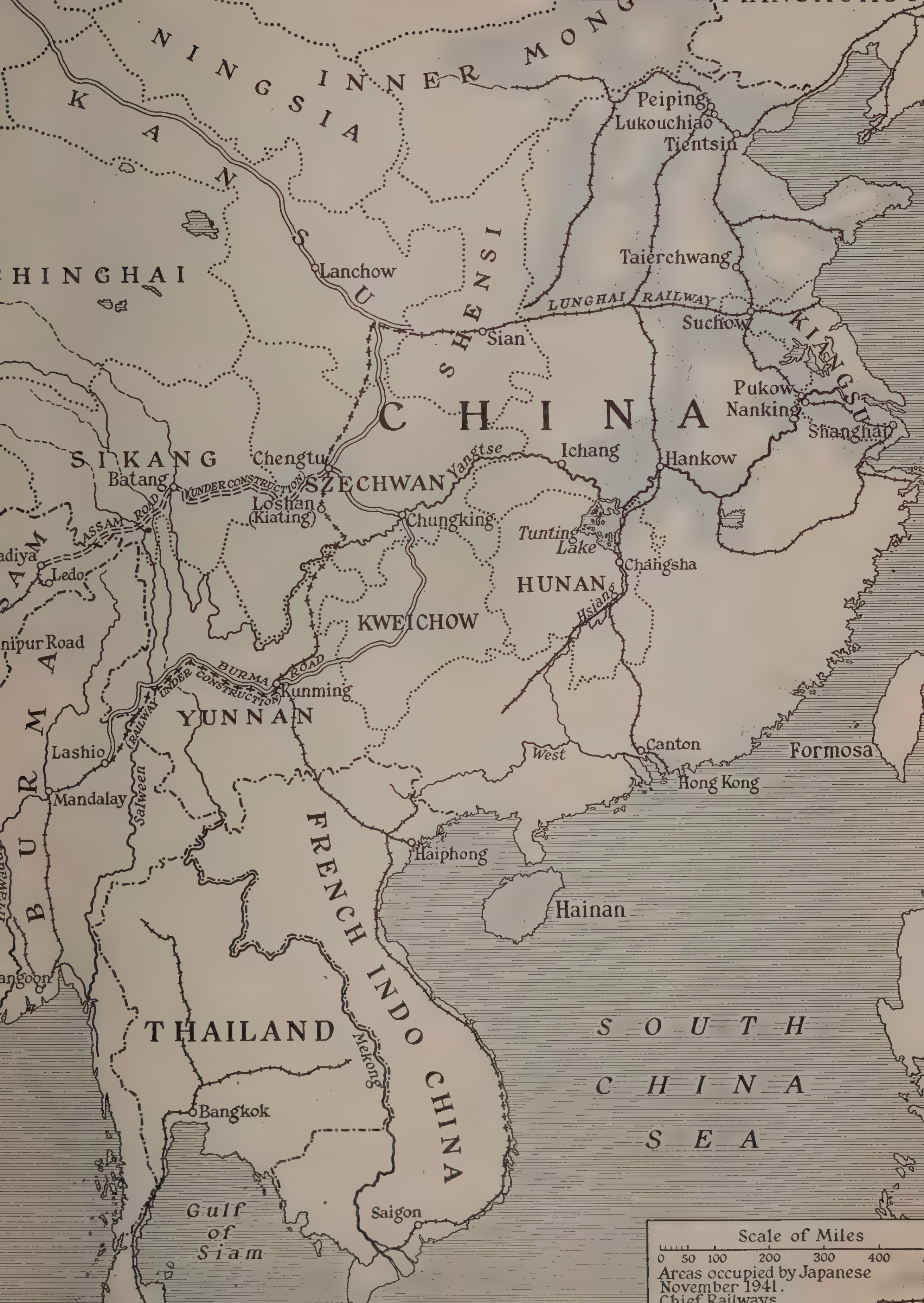
In our last number Mr O. M. Green described how the new China was built up after the Revolution of 1911, and the part played by the Kuomintang. In this article Miss Outhwaite, who has had special opportunities of studying Far Eastern affairs, traces the evolution of the struggle with Japan, which began in 1931 and has led to China's alliance with the United Nations

FEBRUARY 20, 1942, the day on which it was announced that Rangoon had ceased to be the port of entry for supplies to Free China by way of the Burma Road, marked the end of a phase in China's struggle for freedom: a struggle which has entailed four and a half years of war with Japan. Looking back on those years, one is conscious of the impossibility of doing justice to every aspect of Chinese resistance.

By midsummer of 1937 China was ripe for a 'show-down' with Japan. Popular feeling demanded resistance, and Generalissimo Chiang Kai-shek felt himself ready to lead a China united as never before in its history. On their side, the Japanese, who feared this growing national unity which they had done everything in their power to disrupt, found the moment opportune for attack.

Japan's campaign started with a limited objective—the conquest of North China; it led to an attempt to subdue the entire country, and in inevitable stages to a war with the British Empire, the United States of America and the Netherlands, for the establishment of a Greater East Asia Co-Prosperity Sphere (Japanese equivalent of Hitler's *Lebensraum*), reaching as far as Australia in the South and Arabia in the West.

The military forces opposing one another at the outbreak of the 'China Incident' were roughly: China, 2,500,000 men, including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Areas occupied by Japanese November 1941.
Chief Railways

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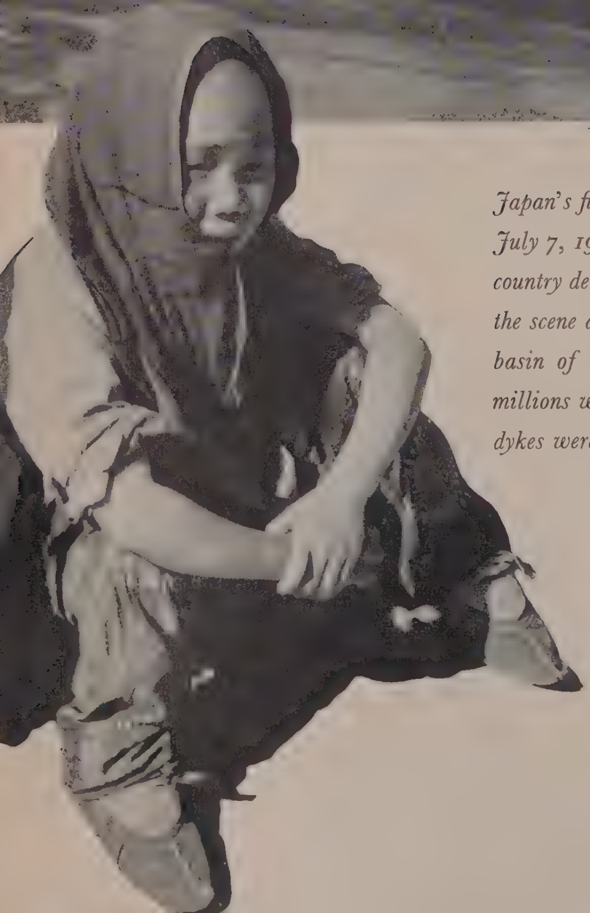


Japan's first act of aggression against China occurred on July 7, 1937, since when the Chinese have seen much of their country devastated by land and air attacks. The 'warden' in the scene above is tackling a fire, after an air raid, with a basin of water. The girl is a Chinese refugee, one of millions who lost home and family when the Yellow River dykes were opened to stem the Japanese advance

100,000 Communists, and 500,000 well-equipped regulars; Japan, 1,800,000 men, better trained and equipped. The Japanese Air Force was almost alone in the air.

On July 7, 1937, Japanese troops engaged in manœuvres in North China came into conflict with Chinese soldiers at the important railway junction of Lukouchiao. Immediately afterwards the Japanese launched an offensive towards Inner Mongolia, and at the same time began an attack on the northern half of the main railway system of China. They were successful; but their success was limited to the land alongside the railway lines. The intervening territory remained, and still remains, largely in the hands of the Chinese.

The second phase of the first year's fighting saw the capture of Shanghai and the capital, Nanking. At this period the Chinese had not developed the defensive strategy which saved them later, and were vainly trying to conduct the war on lines ill-suited to their strength. Chiang Kai-shek took the offensive at Shanghai in August 1937, and met with a shattering defeat. With Shanghai and the Lower Yangtse went no less than 70 per cent of China's industries. The loss was heavy, but it was the last time that faulty strategy was followed. From then on General Chiang Kai-shek conducted a war of offensive-defence, in which, after resisting to the utmost, he withdrew his troops from every battle intended by his enemies to be one of annihilation, always with the idea of starting a counter-offensive when foreign assistance in armaments became effective.

There was a black end to the year 1937. On December 12 the Japanese entered Nanking. Hundreds of civilians were machine-gunned or drowned as they fled across the Yangtse; hundreds more were massacred in a bottle-neck at one of the city gates. According to an estimate made by members of the Nanking International Relief Committee, the Japanese murdered 42,000 people in Nanking, many of them women and children, in addition to some 300,000 civilians killed in the advance to the capital from Shanghai.

Such conduct was intended to break the spirit of the Chinese, and official propaganda led the rejoicing victors to believe the war was over. Instead, Chiang Kai-shek re-formed his forces, moved his government to Hankow, and even gained a victory early in 1938 at Taierchwang. When Hankow fell on October 25, 1938, the capital was again moved, this time to Chungking, 1500 miles up the Yangtse.

The next objective gained by the Japanese after Nanking was the joining of their armies in the north with those on the Yangtse, owing to the capture in May 1938 of Suchow, at the junction of the Tientsin-Pukow and Lunghai railways.

A measure of ruthlessness terrifying to Western minds met the next Japanese move —the opening of the Yellow River dykes. Appalling loss of life, destruction of diligently cultivated fields, the spreading of malaria which was carried back into the western provinces by millions of refugees, was the price paid, without hesitation, by the Chinese.

Disaster again met the Chinese in October 1938. Almost simultaneously with the loss of Hankow, the great southern port of Canton fell. With this, China's main supply line to the outside world, gone, Chiang Kai-shek should by all the rules have capitulated. Instead, two months later, after superhuman efforts which had lasted for sixteen months, the Burma Road from Kunming to Lashio was completed. A new life-line was thus secured, which has served the Chinese well.

The name of Changsha, which has become famous as a symbol of Chinese victory, first appeared in the news after the fall of the two great cities at either end of the Canton-Hankow railway. Changsha, the capital of Hunan, lies on this railway. When its fall appeared certain the Japanese were halted. It was a year before they tried again; the situation seemed so hopeless that a part of the city was burnt by the Chinese, and the Japanese went so far as to issue invitations to foreign pressmen for a conducted tour of the about-to-be-captured provincial capital. The celebration never came off; the Japanese armies were allowed to pass through the Chinese ranks—to be cut off and destroyed. From the Japanese High Command came the face-saving statement that, "having achieved their objective, there was no point in remaining in Changsha, and the army was therefore being withdrawn".

A third attempt to capture Changsha was made at the end of last year. Again the Chinese sucked the advancing Japanese into their embrace, and destroyed them piecemeal. Free China has now enshrined the historic city, which was always dear to them as the birthplace of the southern school of literature and philosophy, in which, during the fourth century B.C., the greatest poet of ancient China, Chu Yuan, lived. This is what a Chinese journal wrote after the victory of last December: "On the western uplands of the Yangtse, high above sea level, lies serenely and eternally the City of Chungking, much bombed but little disturbed, the symbol of a

Toni Muir

At the outbreak of the 'China Incident' China had an army of two and a half million men, of whom only 500,000 were well-equipped regulars. But the Chinese peasant has long been familiar with guerrilla warfare and while serving as a soldier knows how to live off the land. The peasants shown here come from the rice fields of Southern China. The lances with which they are armed were used by their ancestors generations ago. Below are members of an advance party of the regular army going into action in the South Yangtse area

Pictorial Press

nation that is built upon firm rock. At the very heart of the provinces lies the City of Changsha, thrice threatened and as many times emerging victorious, now quietly rising above the mist of the Tungting Lake and the Hsiang River, as an unconquerable citadel of human dignity and freedom."

The later months of 1938 were employed by the Japanese in occupying Chinese ports, in order to strangle China's resistance by cutting off outside aid. This was the process that culminated only recently in the fall of Hong Kong. During the years between, supplies by the Burma Road and (before Russia herself was involved in war) along the long north-west route through Sinkiang from the U.S.S.R. had been constantly supplemented by smuggling along the coast.

A political blow fell on Chiang Kai-shek at the end of 1938 when a leading member of the Kuomintang 'Old Guard', the now notorious Wang Ching-wei, turned Quisling and fled to Indo-China. Later he set up a puppet government at Nanking. This defection and Japanese peace offers did not deter Chiang Kai-shek from declaring his determination to fight on. He immediately set about organizing Chinese resistance from Chungking. In the field fighting continued rather more sporadically; in fact, in spite of various offensives, the Japanese have gained no considerable amount of territory between the end of 1938 and the time of writing. Their most substantial victory was the capture of Ichang, an important port on the Yangtse, in June 1940.

Possession of Ichang, it was surmised, would cut off vital river communications with Chungking; but once again the immense patience and courage of the Chinese baffled Japanese hopes. To maintain transport between Szechwan and Hunan, the Chinese use a tributary of the Yangtse for navigation as far as possible, and then employ 3000 porters to *carry* cargo between this stream and the next—a distance of 85 miles. This use of streams and human carriers is characteristic of Chinese efforts to keep the life-blood of the country flowing.

In one respect the capture of Ichang meant tragedy. It gave the Japanese a bombing base only 300 miles from Chungking. From then on the capital endured constant raids, except when the winter mists shrouded the city. Destruction and loss of life have been great, but the administration has carried on. More fortunate than London, Chungking has natural shelters in the form of caves in the rocks.

Midsummer 1940 tested the courage of Chiang Kai-shek as sternly as it did that of the British. The fall of France opened up Indo-China to the Japanese, who immediately demanded the stoppage of supplies to Chungking by railway from Haiphong to Yunnan. This was followed by a demand for bases, which were ceded after the feeblest resistance. At the same time, the British closed the Burma Road. A few months later, in October 1940, the road was reopened and promptly bombed by the Japanese. This raiding was kept up incessantly, particularly against the bridges over the gorges of the Mekong and Salween rivers. But traffic went on; if the bridges were hit, lorries were ferried across on huge rafts made of petrol drums until repairs were completed. Chinese inexperience in transport problems, however, and a natural inclination towards happy-go-lucky methods led to congestion on the Burma Road. This was put right in 1941, after an American 'trucking' expert, Daniel Arnstein, arrived with a band of American and Chinese helpers. Chinese lorry-drivers were taught how to care for their vehicles, the inefficient system of transporting goods which was robbing the Government of vital war material was reorganized, and the stream of traffic began to flow. With Lease-Lend arms pouring in, Generalissimo Chiang Kai-shek could think of taking the offensive.

When Japan struck at Pearl Harbour, bringing the United States, the British Empire and the Netherlands automatically into alliance with Free China, hopes rose high in Chungking. They have been bitterly dashed by the reverses suffered by the United Nations, but China's determination to carry on the fight has not weakened. The world knows how gallantly the Chinese threw in their underarmed forces in an attempt to relieve Hong Kong, and how they have sent their best divisions into Burma to ward off the onslaught there.

After four and a half years of fighting, the Chinese army consists of experienced soldiers. Chiang Kai-shek's men are extraordinarily hardy by European standards, able to undertake arduous marches and fight on a ration of rice, supplemented by whatever provisions can be found by the way. Free China does not lack men—only weapons. According to the Minister of War, the Chinese army consists of 5 million men in the field, with 10 million in reserve or training. In addition there is a large, uncounted army of guerrillas. Many of these are the famous Communist 'partisans'. The Chungking generals appear to have found the answer to Japanese superiority in arms by their strategy of elastic defence; at the same time the partisans harass the enemy lines of communication with such effect that as many troops have to be engaged in guarding gains as are actually used against the main Chinese forces.

The most striking characteristic of the war in China is the fact that the Japanese have been unable to consolidate control of 'conquered' territory. The reason is not difficult to find. China's very disadvantages have here proved her salvation; her lack of centralization, her comparatively primitive economy, and her tradition of local warfare have combined to rob the Japanese of complete victory in spite of their control of all the main industrial centres, the ports and the railways. China is essentially a peasant country, in which communities can maintain themselves even when cut off from the rest of the world. The people are accustomed to guerrilla warfare, and it has long been the custom for soldiers to live off the land. Soldiers help in the fields during intervals of fighting, and, on their side, peasants give willing help to the Chungking or Communist guerrilla bands.

It would seem impossible that a free administration could be set up behind the lines of an occupying army; but that is what one finds in China. In Southern Kiangsu, for instance, the province in which Shanghai is situated, ever since 1939 the Chinese have conducted a progressive, solvent administration. They have a life-line to Chungking, and they have contact by wireless with the provincial government of Northern Kiangsu; but they are self-contained. A hospital has been founded, in which 19,000 patients were treated in 1940, while a medical staff travels on circuit. An X-ray apparatus has been installed which had to run the Shanghai blockade. Education is developing and nearly 3000 primary schools, with 152,000 students, as well as 12 middle schools, have been set up in Southern Kiangsu. Very few school books can be smuggled through, so the Education Office prints all the textbooks and illustrates them; it also publishes books for general reading, and issues a miniature newspaper, which is smuggled into the Japanese-controlled area daily. The Japanese are always raiding the 26 counties of Southern Kiangsu, but the villagers simply retire to the hills "for the duration" of the raid, to return when it is over. If their houses are still there, they move in; if destroyed, they build others. Organizers are sent among the people by the provincial government to explain the principles on which resistance is based, with such success that the Japanese hold is becoming ever more precarious.

The natives of Kiangsu, who have been known in the past as a weak and pacific people, are gradually being transformed into a determined and warlike race. They are not alone in this. The story of Kiangsu is that of many provinces of China. Free China had in 1941, according to a Chungking estimate, a population of 387,000,000; of this number, 137,000,000 live in nominally occupied areas, but are in fact outside Japanese control.

It is clear, however, that such free communities as Southern Kiangsu, although a drain on the Japanese, cannot contribute greatly to Chiang Kai-shek's military efforts. It is in the eight provinces completely free of Japanese control—Szechwan, Sikang, Yunnan, Kweichow, Shensi, Kansu, Chinghai and Ningsia—that the Chungking administration is valiantly trying to develop industries for the manufacture of arms as well as food and clothing. Chiang Kai-shek taught Stalin the art of "leap-frog industries"; what Russia has done on an immense scale in removing factories from the war zone to the interior was done in a smaller way by China at the outbreak of the war. Over 400 factories were removed lock, stock and barrel from Shanghai and the lost coastal provinces, most of them to Szechwan by way of the Yangtse. New factories in Szechwan have in some cases been installed underground, too deep for any bomb to reach.

Factories need power, and here the Government looks to the vast water-power resources of the country to supplement coal. In particular, use is beginning to be made of the Yangtse and the West River in Yunnan and Kweichow provinces. But Free China is a long way from industrial self-sufficiency. Despite all efforts, the production of coal in 1940 was only 5,700,000 tons, while total power production amounted to only one-sixteenth of that of all China before July 1937. In the manufacture of light arms Chungking claims to be almost self-sufficient; but for supplies of heavy arms and aircraft she must still look to her Allies and Soviet Russia.

For this reason it was a bad day when Rangoon was cut off from the Burma Road. But simultaneously with the announcement of it a report stated that a new route was planned from China to India. This route is believed to be from Chengtu, in Szechwan, via Batang in the new province of Sikang to Sadiya, the railhead of the Assam line, and thence to Chittagong on the Bay of Bengal.

Nothing, as I write, is publicly known of the progress made with this plan. Something may be gauged, however, of the feat of endurance it would represent by recalling the building of the new Western Highway which runs from Loshan (or Kiating) in Szechwan into Sikang. This road, which is to be continued south into Yunnan in order to form an extra feeder to the Burma Road, was completed in the middle of last year. From the engineering standpoint, the Loshan-Sikang highway, running 330 miles through wild mountains, presented more difficulties even than the Burma Road itself. At many points it was hewn out of the rock-face. In the worst sector, a deep gorge separating Szechwan and Sikang provinces, the workmen had to climb up the rock and cut a foothold a thousand feet above the valley. In all, the Loshan-Sikang highway took two years to finish, and the toll of human life was heavy.

Such perseverance in the face of difficulties epitomizes Free China's attitude towards those who attack her and cannot be without effect on the outcome of that larger war in which she now stands side by side with her allies.

After the Chinese victory at Changsha: country children handing fruit to the soldiers. The name of Changsha, capital of Hunan, has become famous as a symbol of Chinese determination to fight on and win; thrice threatened and as many times emerging victorious, it is looked upon as "an unconquerable citadel for human dignity and freedom"

Pictorial Press

Generalissimo Chiang Kai-shek—a most able soldier even before he developed those gifts of statesmanship which have made him world famous. After four and a half years of fighting, his armies, numbering nearly five million men in addition to a large reserve in training, are experienced soldiers, extraordinarily hardy by European standards. Free China does not lack men—only weapons

Toni Muir

The Malayan Jungle

by SIR RICHARD WINSTEDT, K.B.E., C.M.G., D.Litt.

Malaya's jungle, reputed to be impenetrable, has proved porous. Japanese troops, which ought to have rushed down open roads like water out of a tap, percolated from under trees and through thickets like drops out of the honeycomb of a sponge. This feat adds renown to the Mikado's army but appears to discredit the character of Malayan forests. Yet that character has not been merely the invention of romance.

The Portuguese had greater success than any other European fighters in Malaya because they never ventured further than its ports and estuaries. It took the Dutch thirty years to conquer the Achinese, in the jungle fastnesses of Sumatra. In 1831 our own East India Company spent £100,000 in the hinterland of Malacca on a humiliating campaign against the rusty muskets and ragged creeses of the Malays of Naning. One hundred sepoys with two six-pounders dragged by bullocks started that little war, but they were bogged and had their communications cut by the felling of forest trees in their rear, so that with guns lost and baggage destroyed they were compelled to retreat "expeditiously" to Malacca, where "fear whispered that every bush concealed a Malay and converted every stick into a musket barrel." The British colonel then had a road 600 feet wide cut at the rate of 3 or 4 miles a month over the 22 miles to his objective and talked of acting on the defensive against an enemy who, had he known it, never numbered more than a hundred men. A few dollars paid to a Malay Quisling led to an inglorious and inconclusive victory.

In the seventies of the last century when we started to protect the Malay States, there were a few more of these jungle expeditions, each rather reminding one of a sack race though satisfactory in results. The little Perak war of 1875 has been amusingly described by Sir George Scott (of Burma fame but then a war correspondent) in a story entitled 'Needs Explaining' in a forgotten book called *Cursed Luck*. In every one of these military excursions the Malayan jungle maintained its reputation inviolate.

Malayan jungle is a term too broad and indefinite. There are several types of it.

Sail down the straits of Malacca and you will see mile upon mile of the light-green mangroves of the coastal belt. Of these tidal mangrove-swamps early voyagers wrote with indiscriminate contumely. The heat generally steams out of them as out of a cauldron and at night the mosquitoes may be a pest. But often there is a sea-breeze and the mosquitoes seldom carry malaria. For the tyro these swamps are impassable and I once sank in one up to my arm-pits, only to be rescued by my Malay crew laying boat-planks over the squelching quagmire. But the cutter of mangrove firewood will know of the occasional sand-dune or he will await high tide and then paddle up tiny streams that mark these salt-water flats as veins mark a leaf. On the way he may catch a glimpse of monkeys crossing in procession under the trees with a show of purpose astonishingly human. Or a grey heron or a stork, a curlew or a redshank, may pace delicately over the mud. Nearer at hand tiny coloured fishes will climb spasmodically a foot up the root of a mangrove tree. Those roots fascinate me still, splayed out like the ribs of a huge creel to get a firm grip on the mud. And the seeds! Long candle-like shafts that drop like spears into the swamp, so that no suction can drag them down or tide wash them away. In the rivers crocodiles are as numerous as dogs in Kensington.

Even early voyagers have never damned in Elizabethan prose the shore belt of the east coast of Malaya, where the monsoon from China has thrown up banks of sand on which flourish hibiscus plants and the tall feathery casuarina. Here one can walk as easily almost as in a pine forest in Europe.

Inside the coastal belt there are often, on the west of the Peninsula, fresh-water swamps. One tenth of Malaya is covered by them, some too watery for the growth of trees but all

Pictorial Press

An Australian soldier, struggling through the steaming jungle, pauses to refresh himself

tangled with pandans and numerous spiny plants that obstruct all traffic except passage by boat up the watercourses. Joseph Conrad saw these swamps often, as skipper of the little Arab-owned *Vidal* that traded from Singapore. "All around in a ring of luxuriant vegetation bathed in the warm air charged with strong and harsh perfumes, the intense work of tropical nature goes on: plants shooting upward, entwined, interlaced in inextricable confusion, climbing madly and brutally over each other in the terrible silence of a desperate struggle towards the life-giving sunshine above—as if struck with sudden horror at the seething mass of corruption below, at the death and decay from which they sprang." Civilization burns its leaf-mould.

Further inland at the foot of the hills lie Malaya's only open spaces, patches of giant grass where man has cleared the forest to plant dry rice or tapioca or pine-apples and then passed on. In the old days of shifting cultivation there were thousands of acres of such grass, where tigers and wild game sunned themselves in expanses broken by mean wild rhododendrons. Now every spot not too peaty to irrigate has been planted with rubber in spite of the expense of uprooting the giant grass whose knife-like roots will tap a rubber-tree below the ground and whose sere and crowded shoots threaten rubber bark with danger of fire. Even in days when estates were clean-weeded (and so denuded of humus!) the tops of the rubber trees interlaced like a forest canopy, while below ran open rectangular groves—along which Japanese tanks have since trundled. Of late years some owners have let the forest scrub grow up except just round the rubber-tree.

But for its open grass-grown wastes and sparse pineapple plantations and stretches of rice-field, Malaya till a few years back was covered with dense vegetation from sea-level to mountain-top. And of its 9000 plants and ferns, some 3000 are trees, a greater variety of species than in all India and Burma. Giants of the forests, ranging from 150 to 200 feet high, out-top all other trees and usurp the sun. Below, lesser species ape them at a respectful distance of fifty feet. Still lower down struggle small trees and shrubs, while lowest of all grovel palms and ginger-plants and ferns. Where light pierces the aquarium green, orchids and ferns cling to the branches, while stretching from the ground tall climbers throw tendrils round massive trunks and clutching the topmost boughs burgeon into great clusters of yellow, orange and red flowers or drape their props in a grey mantle of Old Man's Beard. It is no wonder that when entering the forest every old-fashioned Malay would invoke for his protection all the spirits of mountain, hill and mound, of hard-wood tree and creeper and cane, of trunk and bough and leaf. And before starting to fell he would bid forest gnomes and demons avaunt, threatening that if they crossed him their eyeballs would be pierced by thorns, their hands wounded on splinters and their tongues cut by knife-edged canes.

But no old-world invocation could bar the forest to the latest invader of Malaya. For now the forest has been intersected by roads and railways. Aborigines have trodden pathways, Chinese woodsmen have made ruts, estate-coolies have opened short cuts, surveyors have cleared traces, and forest officers have chopped away unprofitable undergrowth beneath trees being pampered for the market. The Malayan forest is no longer virgin. Its virtue has departed.

Imperial Institute

The Malayan jungle has lost some of its fierceness and, intersected by roads, no longer bars the invader

The Free French Cameroons

by THERÈSE TONY MAYER

The strategical importance of Free French Equatorial Africa—which comprises Chad, Ubangi-Shari, Gabon, and the middle Congo as well as the French Cameroons—is likely to increase with the intensification of the war in the Mediterranean and the Middle East. Madame Mayer recalls recent history in the French Mandated Territory of the Cameroons, showing the main preoccupations of the government there during the past few years. Among the most important of these were communications. The Free French Administration, anxious to develop every source of strength to the Allies in this vital corridor, has now completed a system of roads which links Douala on the West Coast of Africa with Mombasa on the East

The Cameroons were discovered at the end of the 15th century by Portuguese from the island of Fernando Po which is now Spanish. They gave it its name 'Cameroons', which was their word for little fresh-water shrimps. Soon after, European trading centres were established on the coast along which, until about 1884, English, French and German merchants traded side by side. In 1884, on July 14, the German cruiser *Moewe*, with the explorer Dr Nachtigall on board, disembarked a few troops. Dr Nachtigall then entered into negotiations with the native chiefs, and in effect Germany had taken control of the Cameroons. She was to explore and exploit the country, and extend its boundaries as far as Chad.

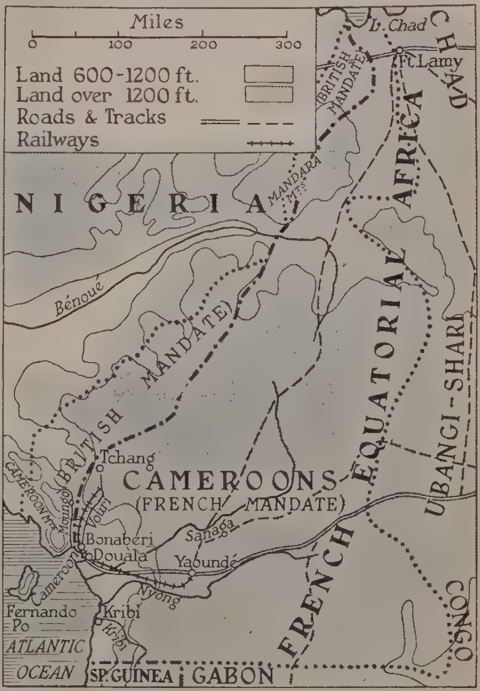
Change has been rapid in the Cameroons. Within living memory there have been internal wars, the German domination and the French acceptance of the mandate.

During the last war the French, British and Belgian armies had defeated the Germans in the Cameroons by March 14, 1916. A Franco-British Treaty was concluded leaving the administration of the Cameroons temporarily to France. By the Franco-British Declaration of July 10, 1919, Great Britain received that part of the Cameroons bordering Nigeria, while France was given the Mandate over the rest.

The country in which France became the mandatory Power was a huge territory of 275,000 square miles with a population of 2,790,000, bordered on the north by the Chad, on the south and east by French Equatorial Africa, on the west by Nigeria and on the south-west by Spanish Guinea.

On leaving the coast in the direction of Lake Chad, the traveller passes first through a low-lying alluvial district which gives place to hills and high plateaux. On the western frontier lies the great Mount Cameroon range, then another low-lying area, the Bénoué Pass, and finally a series of heights facing east: the Mandara Mountains. Tropical forests stretch from the coastal districts to the high plateaux, where many rivers have their source. The Moungo and the Vouri flow into the estuary of the Cameroon river, while the largest rivers, the Sanaga and the Nyong, have their source in the central plateau and reach the sea further south. Other rivers flow north into the Chad Basin, and the largest, the Bénoué, is a tributary of the Niger. On the estuary of the Vouri are two ports, Douala and Bonaberi.

Cultivation is varied. The territory



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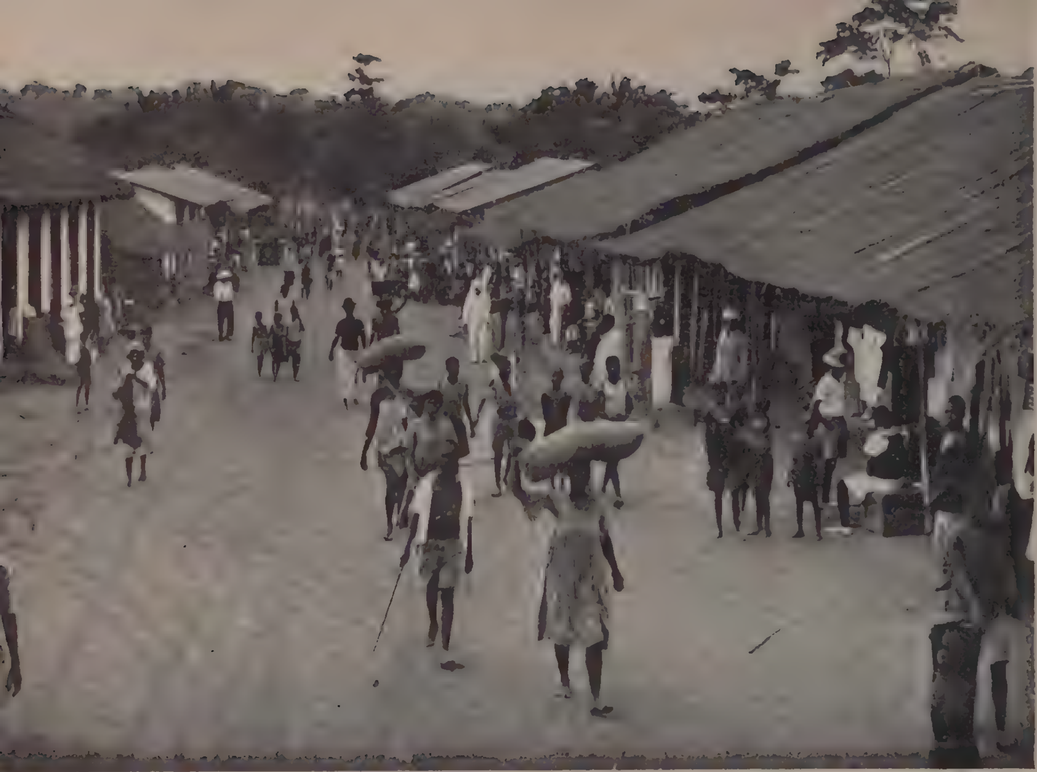

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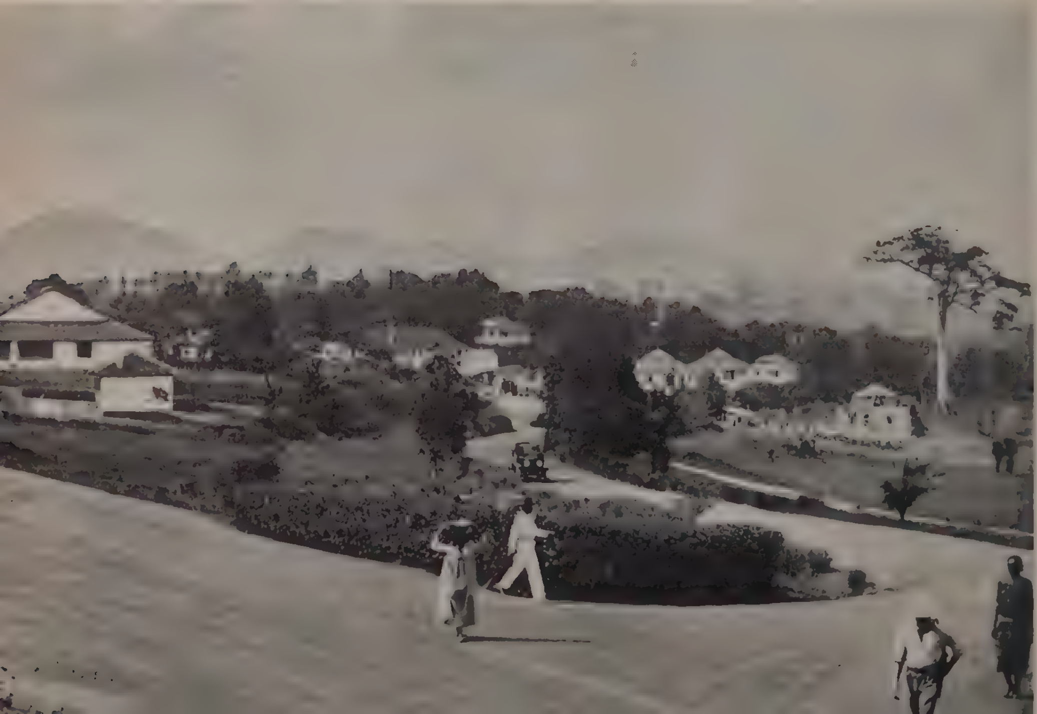
(Above) *A Cameroons village street, well swept and orderly. The shop on the right sells semi-European clothes.* (Below) *Bungalows of French administrators and traders in the European part of Yaoundé. Note the silk-cotton tree on the right.* (Opposite) *The street traders' rolls of striped cloth are woven locally*

Dorien Leigh



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Dorien Leigh

Returning from market on the borders of French and British Cameroons. Both the man and woman are wearing traditional African dress and sandals but the girl's basin and the pail on the ground show how common the use of imported goods has become

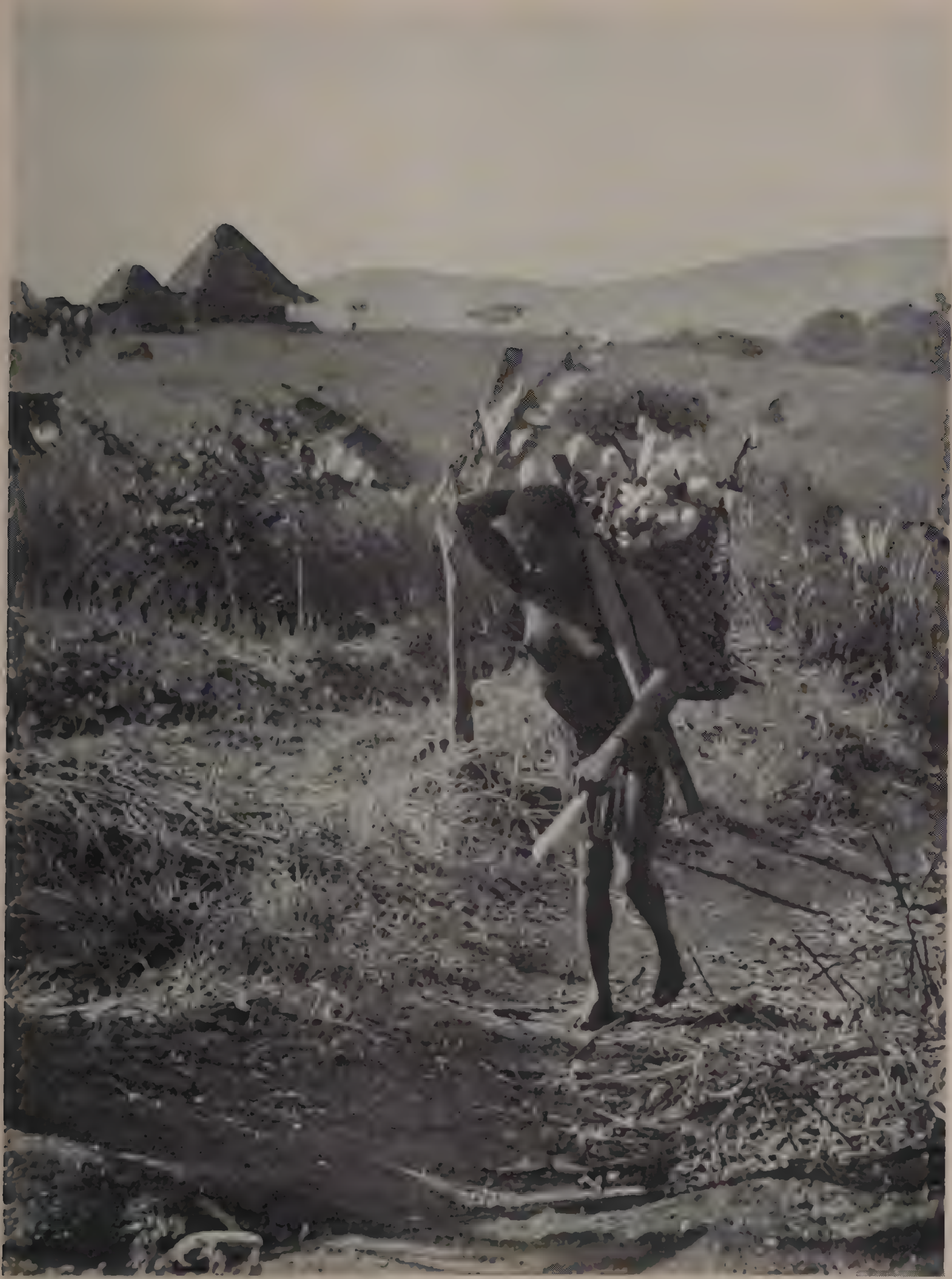
bordering on Chad is barren; stock-breeding has been developed on the great plateaux, above the tropical forests, and in the plains and on the lower hill-slopes tropical produce is grown, including coffee, cotton and rubber.

POST-WAR REFORMS

In 1916 the country was exhausted. The natives did not understand the struggle between Europeans, and were impoverished by their fight against the Germans. The produce of the great plantations was not enough to feed them, and, in addition, in certain districts they were being annihilated by disease.

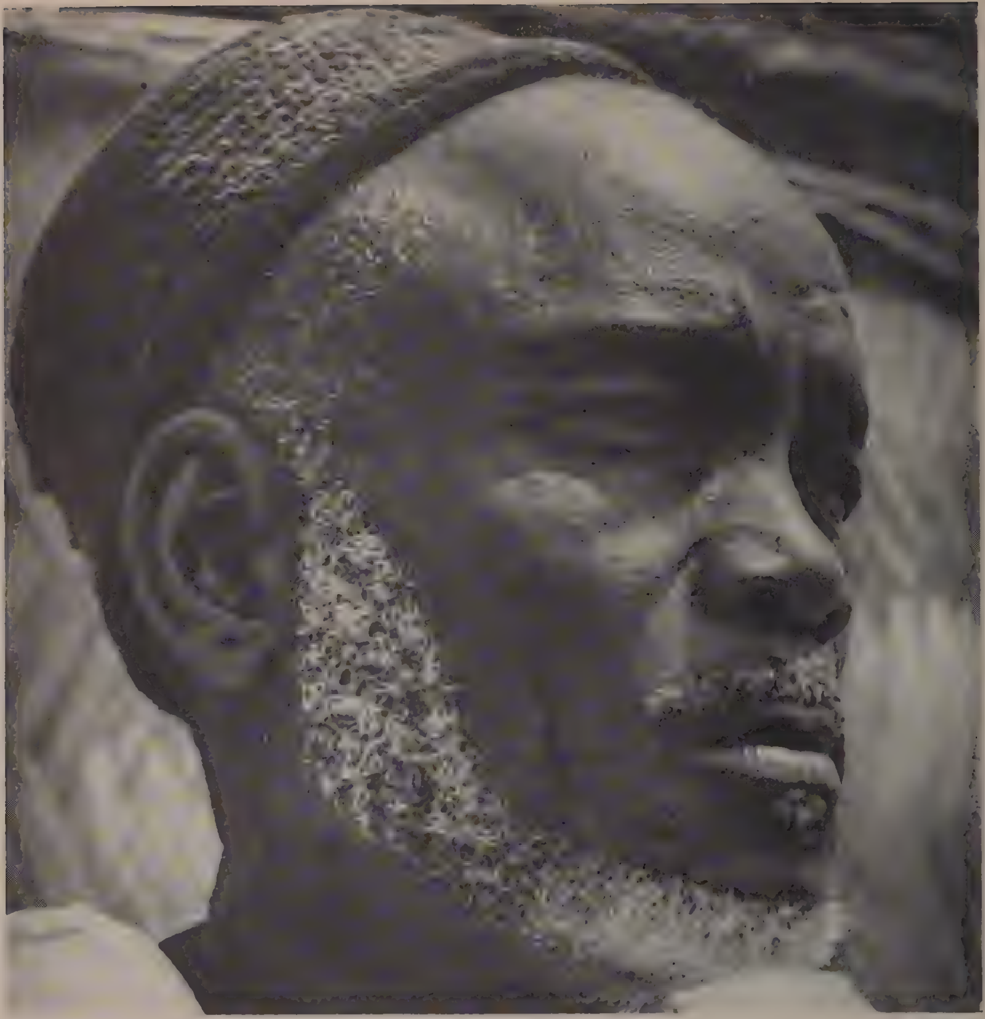
France's first task was to reorganize the administration, conserving as far as possible divisions corresponding to the natural divisions, maintained by the Germans. A Governor was installed at Yaoundé. Seventeen departments were established, with colonial officials in each department town to direct the native chiefs. In some places the former chiefs were retained, elsewhere new chiefs were appointed, and in other cases natives were chosen as executive agents. Advisory Assemblies of notables were developed.

But at this point sleeping-sickness broke out. All African tribes are subject to periodic epidemics, and one of the most



Dorien Leigh

Carrying home a basketful of maize cobs which will provide the grower and her family with breakfast, lunch and dinner for several days. The tree just behind her is a young banana palm



Free France

dreaded is sleeping-sickness. If the rains are particularly heavy, or if infected people move about, the disease spreads. Whole villages have been known to disappear or to have their child population almost wiped out. The terrified survivors fled to other parts of the country where they spread the infection. Uninhabited areas gradually became vaster and forests encroached on the village sites. The menace was such that many feared the complete disappearance of the population in the forest zone.

From 1916 onwards the French tried to combat sleeping-sickness. One man, Dr Jamot, devoted himself whole-heartedly to this work. In 1926 his organization was perfected, and in 1934 the disease virtually disappeared. Thenceforward, if it broke out again, a method of dealing with it had been found, and fresh cases could be treated as soon as their presence became known.

FOSTERING A PEASANTRY

Since the French took over the country, the number of railway lines has been doubled, and over 4000 miles of new roads have been built. In the clear air of the high plateaux, the new strains of livestock, European and

(Opposite) *A Hausa chief. The Hausa people, numbering over five millions, occupy a territory stretching over the northern part of Nigeria and the Cameroons. They are also found in the northern territory of the Gold Coast and in French West Africa*

A bunch of grass and a graceful carriage make a combination that, even without the decorative shadow of a basket, give chic and charm to this girl of the Cameroons

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indigenous, are to be seen in a setting such as is found in many semi-mountainous districts of Europe. Flowers and fruits from France are being grown, too, and in the plains the Government encourages the development of tropical produce such as cocoa, coffee, cotton and palm-oil.

These twenty years represent a hard struggle. Experiments had to be made in unknown country. Often their success was nullified by an economic crisis which transformed the situation, and the persevering French colonist had to abandon his coffee-shrubs to grow bananas.

The administration favoured medium-sized plantations rather than big ones. It encouraged the growing of manioc and sweet potatoes, and was proud to be able to say that there was no longer danger of a food shortage.

The Africans had their own cooperative groups, which often brought in handsome profits. The administration pursued a policy of strengthening old-established peasantry where one existed, while it extended to all who were willing to submit to its regulations facilities to enable them to own land. The policy was a success. The country produced

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(Left) *Young mother and child from the interior of the Cameroons. She wears a bead necklace, bracelets and a rather uncommon leg ornament below her knee.* (Right) *The child has its bath in public while the bearers carry away the water-pots turned, now that they are empty, on their sides*

and exported rubber, bananas and rice. Timber was developed in the tropical forests, in particular those colonial woods which are so cleverly used by Paris decorators, such as okoumé, mahogany and rosewood. Giant orchids and white arums had to be crushed underfoot before paths could be cleared to these trees.

NATIONAL ASSETS

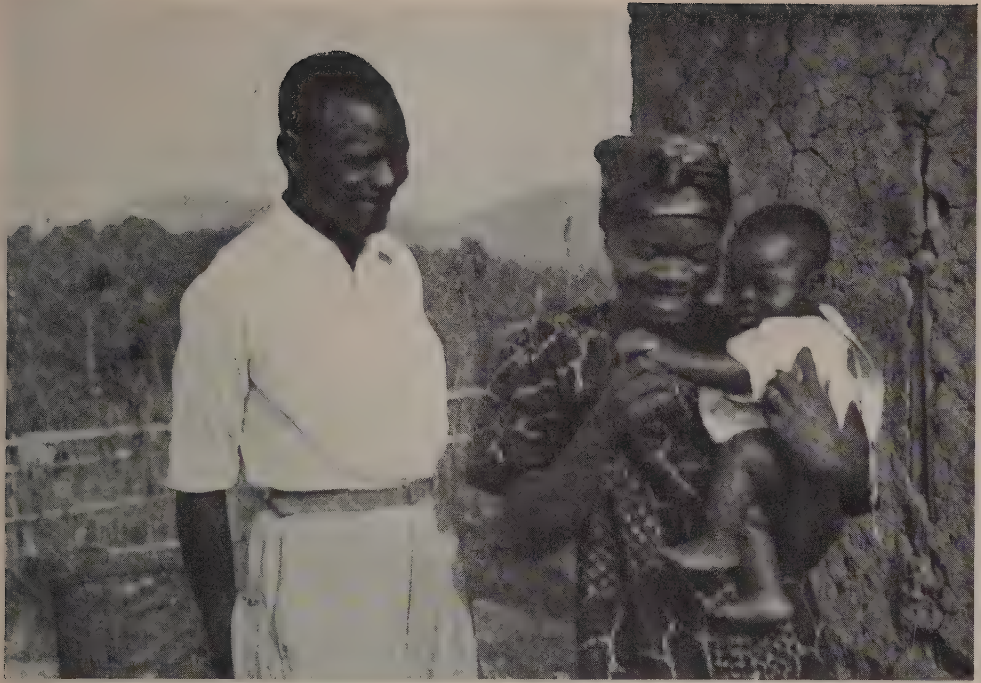
It then became evident that the Cameroons were rich in minerals. Since 1929 the quest for mineral wealth has been legally regulated. Rutile, tin and gold mines have been discovered and developed. In order to export these products, the ports of Douala and Bonaberi have been enlarged and made accessible to modern ships, while the port of Kribi has also been improved. In 1941 imports amounted to 36,297 tons and exports to 65,339 tons.

In this mandated territory, France has given special attention to education. Classes are held in French, which the Africans have been quick to learn, and teaching is supplemented by practical training. It is no rare thing for a school to have its own farm, where the pupils work. Eighty thousand children attend the mission schools.

DIFFICULT DAYS

In the difficult days of June and July 1940, the Africans rallied to General de Gaulle, who, in their eyes, personified the spirit of France's mandate. The month of June was everywhere an anxious period: in Yaoundé, the administrative capital, in Douala, the big port, and in Tchang, on the north-east plateau. It was in Douala, on July 27, that loyal Frenchmen proclaimed their intention to keep the Cameroons in the war, and to stand by General de Gaulle and the Allies. This promise was fulfilled a month later.

During this month, demobilized men from other parts of Africa formed groups in Nigeria, where the partisans of resistance came to work for the Free French cause in the Cameroons.



Free France

French administration has brought modern science into the African home. This family has had the benefit of a clinic for their baby. Compare the style of headdress seen on this woman with the one worn by the shopkeeper on page 23. Each method of tying head cloths is peculiar to a district

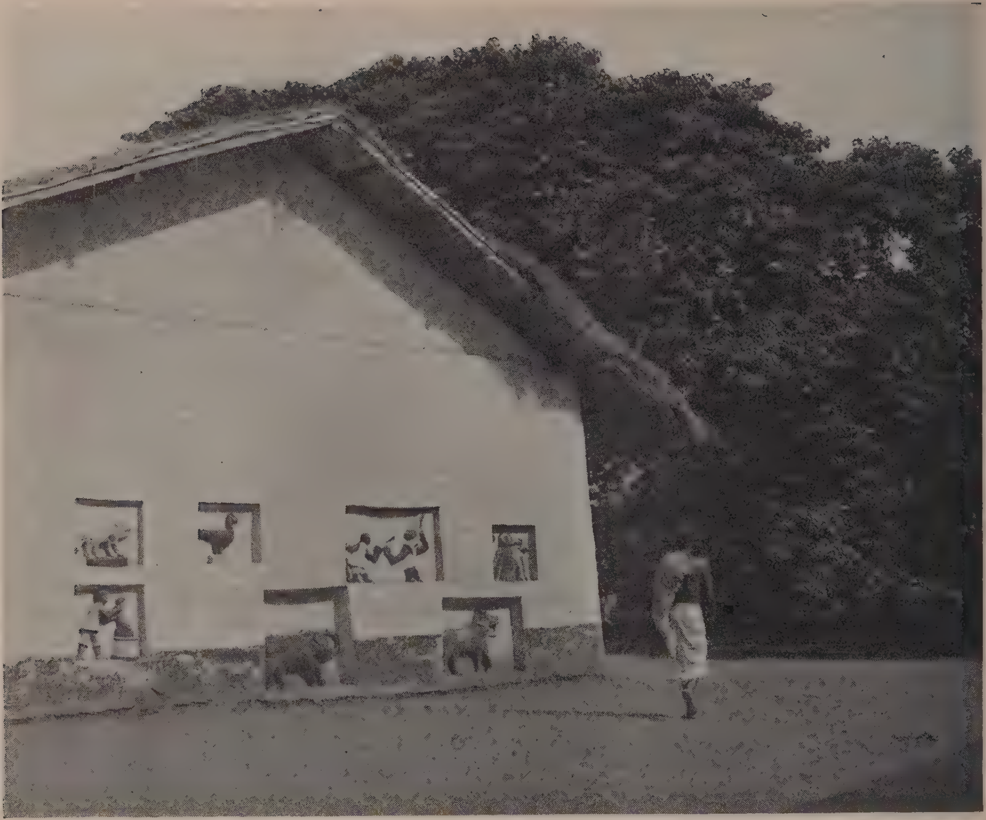
Those who were most anxious to safeguard France formed a league of 'Honour and Liberty' which was closely connected with the Free French Headquarters. They asked General de Gaulle to send a delegate to the Cameroons to help them in solving their problems. Colonel d'Ornano—who was later to die in a raid on Murzuk, carried out in collaboration with the British—and M. René Pleven had just rallied Chad to the Allied cause. On August 27 Colonel Leclerc arrived at Douala with twenty-five men. He was appointed temporary Governor of the Cameroons and Commander of the Armed Forces. In order to make himself thoroughly conversant with the situation, he immediately set out by plane to visit the outlying stations and prepare the defence of the territory. He left the capital to take up residence in the principal town, Douala, where he started a newspaper—the *Free Cameroons*—to keep the population abreast of the news. Colonel Leclerc then went on to rally other parts of the Empire, and a long-standing inhabitant of the Cameroons, M. Cournarie, was appointed Governor-General.

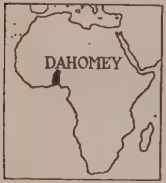
LOOKING FORWARD

Since then, the Cameroons have been united in the determination to make an important contribution to the war effort. For a long time past, Germany has coveted her old colony. Had she succeeded in establishing herself there, with the Italians in Libya, the Axis would have reached West Africa. As it is, from Lagos, in Nigeria, via Douala and Yaoundé, Khartoum can be reached without leaving allied territory. From Lagos to Dar-es-Salaam, communications are open and bases are provided for aeroplanes and sea-planes.

The colony has been given a new lease of life: the old relationship has been maintained between the franc and the pound sterling, to avoid competition or monetary collapse.

More than ever with the opening of new theatres of war the products of the Cameroons are essential to the war effort; more than ever work goes on in the Colony in close collaboration with Great Britain and the Allies.



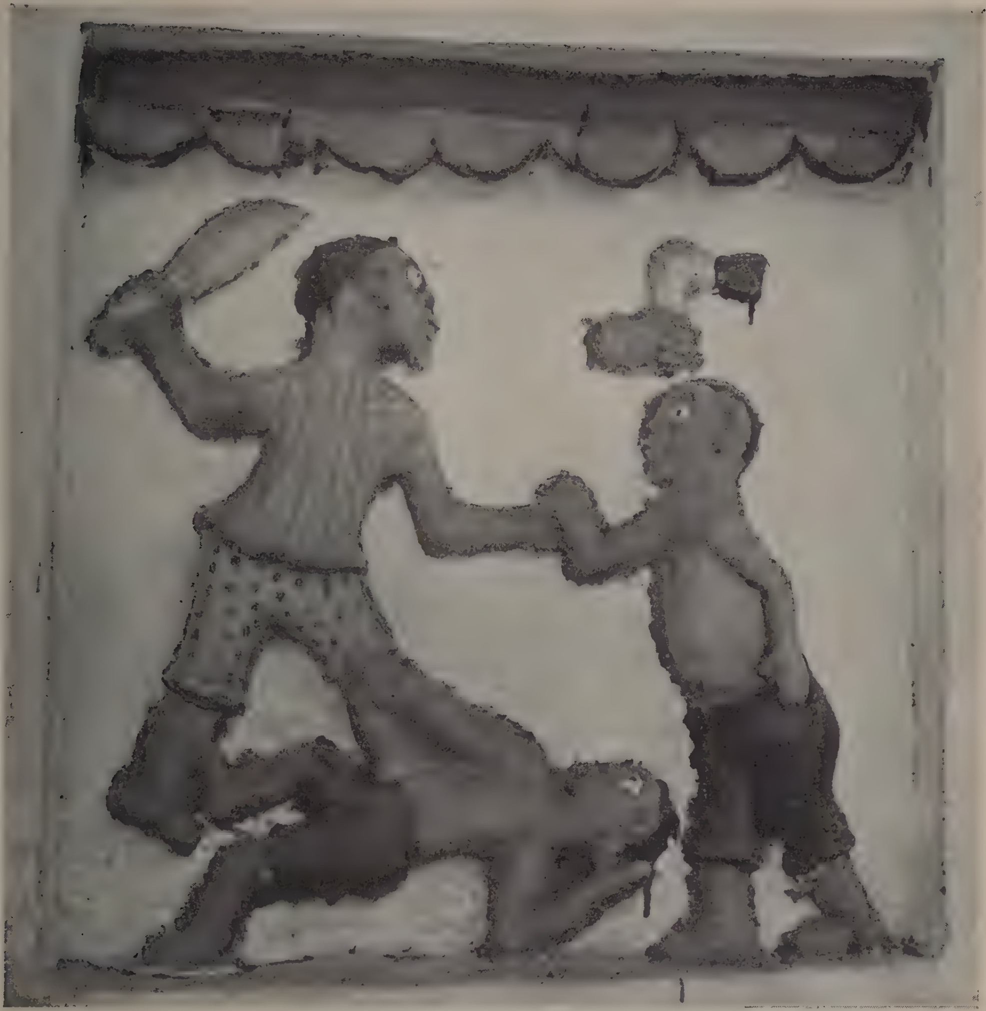


Painted Palaces of Dahomey

An Illustrated Commentary by Pierre Verger

Dahomey is now part of French Equatorial Africa. It was, until annexed by the French in 1892, a negro kingdom of which Abomey, about 70 miles from the coast, was the capital and home of the reigning dynasty. Here each king built within the same precincts a new 'palace' for his own use. These palaces, a series of mud huts with thatched roofs, covered nearly a hundred acres. When visiting Abomey some twenty-five years ago, the French Governor was struck by their number and size and by the remarkable bas-reliefs on the walls. (Reconstructions of these 'stories in pictures' were made in Paris on casts taken by a M. Waterlot in 1911 and used to decorate one of the grand staircases of the Ethnological Museum of the Trocadero.)

The Governor decided to restore some of these historic buildings. He also planned to form a collection of royal relics spared by the fire which followed the French capture of the town: for instance, furniture, carved wood, parasols, consecrated funeral objects, statues, arms and vestments. In 1929 the walls of the vast courts and palaces of King Ghezo and King Glélé (two of the most famous of the negro kings, who reigned from 1818 to 1889) were rebuilt

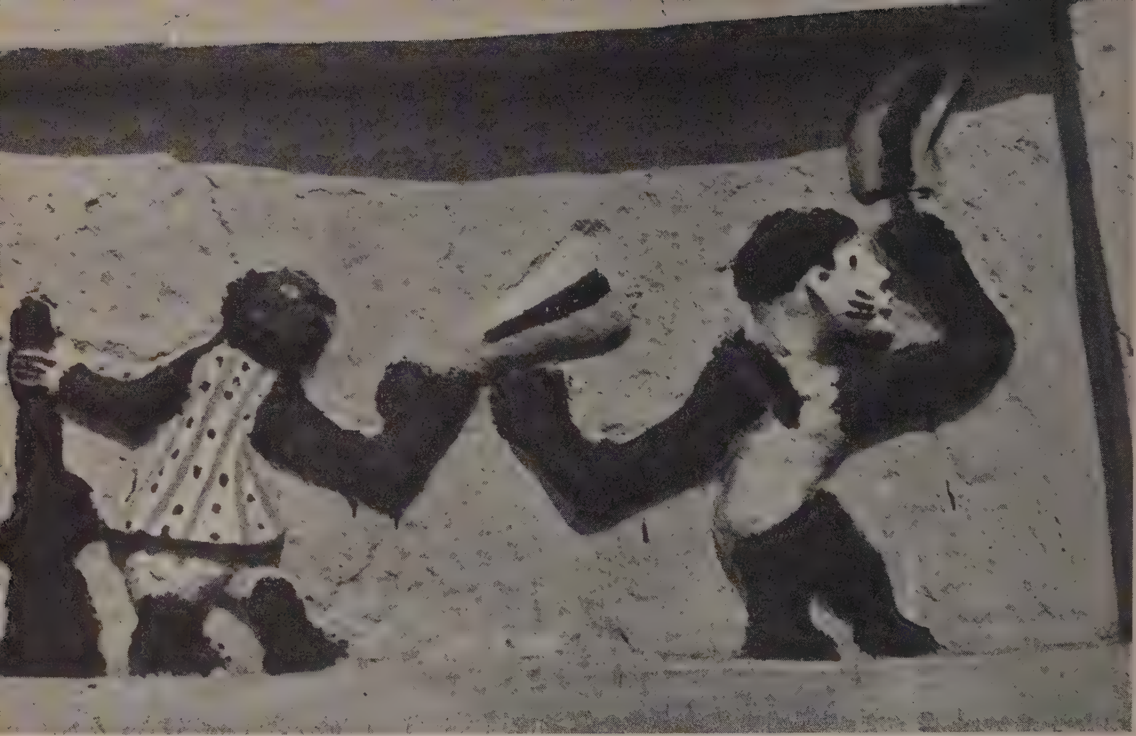


All photographs from Toni Muir

to form a museum and the salvaged objects were arranged for exhibition in the repainted rooms. Periodically the widows and certain descendants of the dead kings take the contents of the museum from their places and, in the shade of old trees in the courtyards, give them a thorough cleaning. The photographs reproduced here show the coloured bas-reliefs on the outside walls of King Ghezo's palace. They are painted in accordance with local traditions, and the artists who at long intervals repaint them do not hesitate to colour them differently each time.

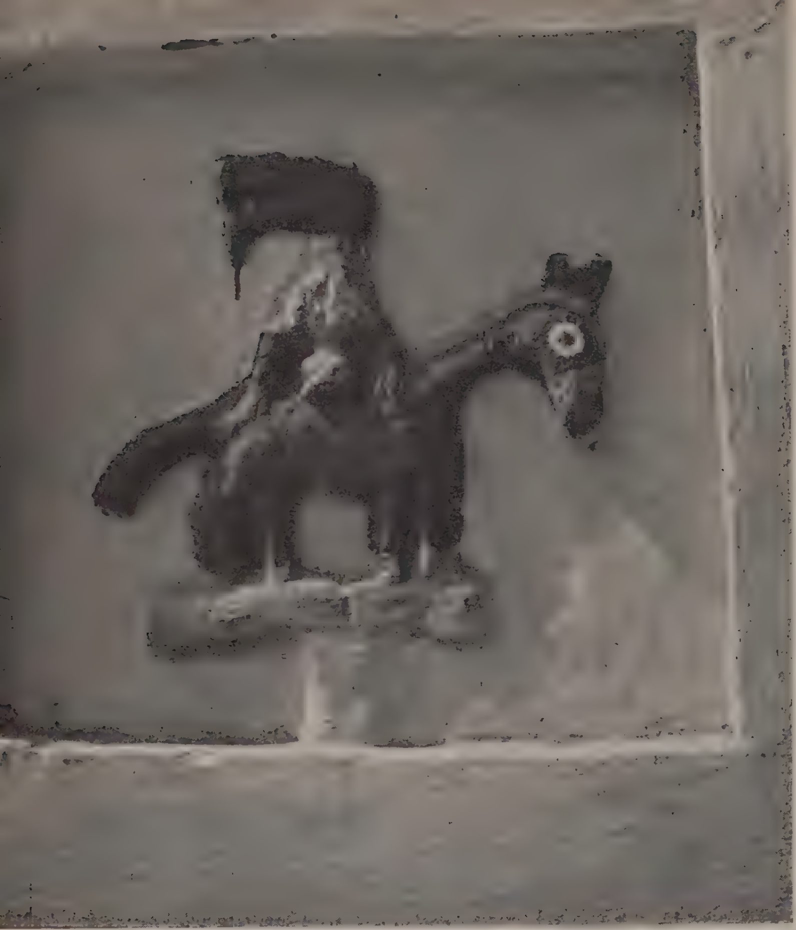
The kings of Abomey were continually at war against neighbouring peoples, the Nagos in particular, one of seven neighbouring tribes. The Dahomeans were often victorious but when they were beaten they had to pay tribute to their conquerors. The bas-reliefs illustrate episodes and legends connected with these interminable struggles.

The first picture is of King Ghezo's palace, the second of a Dahomean warrior who, leaping onto the body of a Nago whom he has slain, prepares to cut the throat of a second Nago. The scene undoubtedly represents an actual combat.

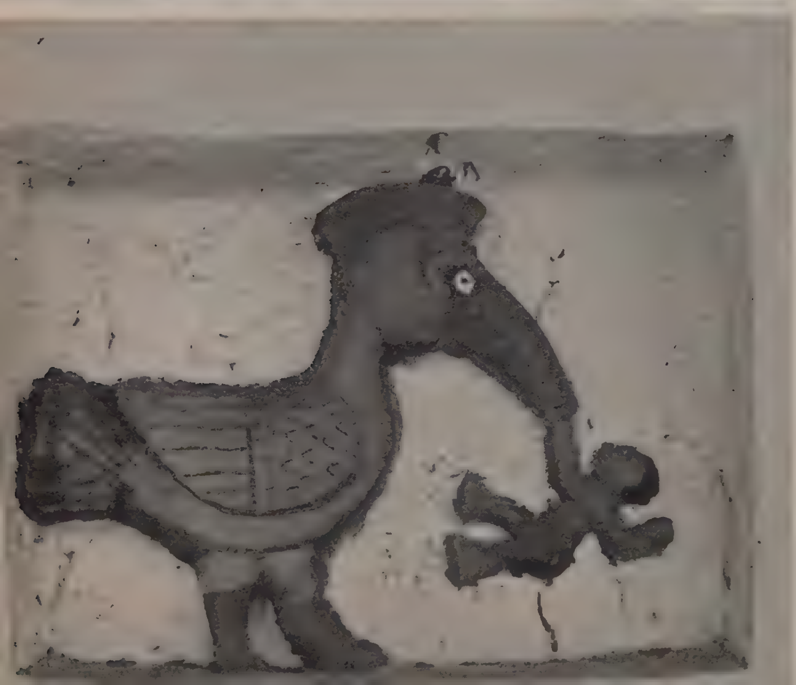


(Above) *The figure on the right is a Nago soldier who boasted that he had put the Dahomeans to flight by simply waving his arms. King Ghezo of Dahomey, irritated by such insolence, conquered and broke the Nago's country and had the arms of which he boasted cut off.* (Left) *Prince René Aho Glélé, sitting beside the figure of a lion, emblem of his ancestor, King Glélé, who was called* kini-kini, *'lion of lions'*

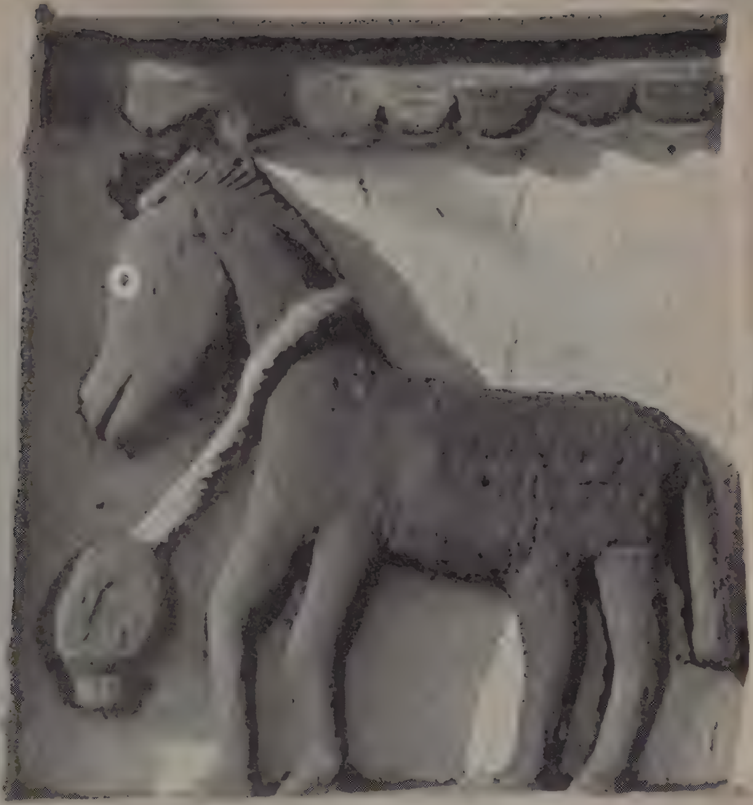
(Left) *The serpent swallowing its tail signifies eternity.* (Opposite) *The old guardian standing at the door of the Museum. The bas-reliefs represent the two royal thrones; the upper one is flanked by sceptres*



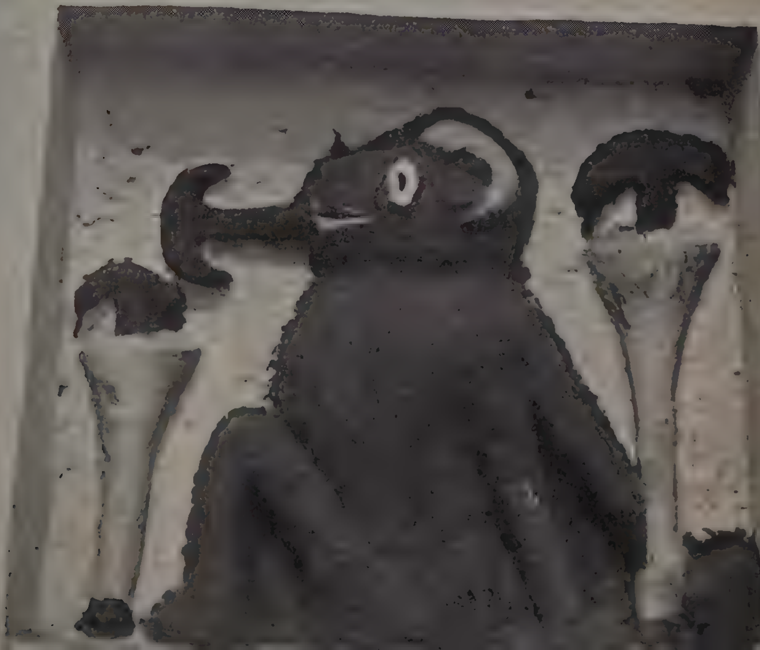
A great Nago warrior called Akouki who, at the head of 20,000 men, attempted to take Abomey but was vanquished by King Ghezo, killed, and his corpse publicly promenaded upside down on horseback. The Dahomeans greeted the spectacle with cries of "You wished to come to Abomey; very well, now you are here!"



The symbol of King Glélé: a fabulous bird with a red aigrette and so large and strong a beak that it could seize its prey however formidable. The figure in its beak signifies the fate that will attend the king's enemies, notably the Nagos



After Kilaon, King of Chaga in Nigeria, vanquished enemy of King Glélé, was beheaded, his head was hung round the neck of his horse and paraded through the streets of Abomey



A Dahomean deity: god of thunder and war, who has only one foot and the head of a ram. He is spitting lightning and holding thunderbolts

England's Early Forests

by J. MOREWOOD DOWSETT

Mr Dowsett is the author of a forthcoming book on the subject outlined in this article. In putting dates to the epochs to which he refers, it should be remembered that geological time cannot be measured in years since the age of the earth is not known: each era or epoch may cover millions of years. Such distinctions as palaeolithic and neolithic as well as the terms Iron Age, Bronze Age, Ice Age, etc. refer to periods of cultural development rather than of time

Two thousand years ago our Celtic ancestors lived in wild forests that covered almost the whole of Britain. They wore their hair long and stained their bodies blue with woad; their clothing was mainly manufactured from the skins of wild animals slain in the chase. Emerging from their homes in the forest clearings, they pushed their primitive coracles out into the Thames and other rivers to catch fish to supplement their meat diet.

Although the arts of agriculture were unknown to the tribes in the interior of the island, those inhabiting what is now the county of Kent had a rude civilization of their own. They sowed corn and knew how to spin and weave. They had a currency of iron and copper coins; they had a code of laws and a primitive religion, expounded to them by their priests, the Druids, who could recite the long epic poems they had learnt during their novitiates.

These Celtic inhabitants of Britain were descendants of invaders who had driven out or exterminated a more primitive race. Yet they, like the older peoples they displaced, were forest dwellers.

At the dawn of the Iron Age forests of oak, ash and thorn extended over the whole land. There were stretches of open downland, and in the north tracts of moorland red with heather, and barren mountains. A squirrel climbing a tree on the edge of the English Channel could have leapt from branch to branch, without ever descending to the ground, until he reached the mouths of the Humber or the Mersey.

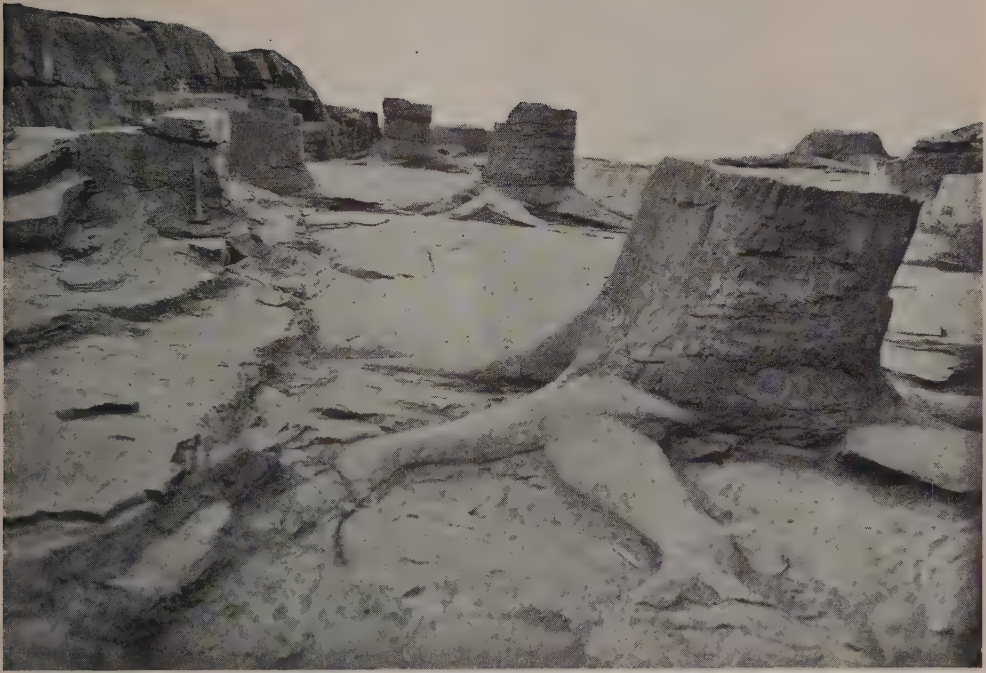
In pre-Roman Britain the trees still remained lords of the land, for although the metal blades of Celtic axes could fell them, there was no desire for their wholesale destruction. Clearings might be needed for settlements, agriculture and pasturage, but since Britain was peopled by tribes constantly at war with one another, the forest tracts afforded excellent natural lines of defence, especially when interspersed with marshes or swamps, and the invader who did not know the lie of the land was at a considerable disadvantage.

Our story of the British forests may begin far earlier, in the Carboniferous Period when the coal we are now using as fuel was alive in the form of vast forests growing on swampy ground at the mouths of rivers, instead of lying inert far below the earth's surface in seams of hard black substances.

Like the Devonian Period that preceded it, this Carboniferous Period was one of frequent interchange of land and sea. Southern England then consisted of many islands rising out of the water, while Ireland, which had been united with Britain in Devonian days, was completely submerged beneath the sea. Scotland was joined to Scandinavia by a land bridge, and its highlands were still full of lava from volcanoes.

Life, so the scientists tell us, began in the seas. In the countless years that comprised the Carboniferous Period the sea was still the main home of life; around the English shores swam sharks of larger dimensions than any found in the tropics today, while rays and many types of dogfish throve and multiplied.

In the lowest carboniferous strata we find fossils of the stegocephalia, which according to Professor Park are the earliest amphibians of all. The true amphibians are animals that began life as water-breathers, like fish. Later on they became breathers of air, and so they form a connecting link between fish and reptiles, the ancestors of birds and mammals.



From the Director, Geological Survey and Museum. By courtesy of the Controller, H.M. Stationery Office

In the carboniferous period the coal we are now using as fuel was alive in the form of vast forests growing on swampy ground at the mouths of rivers. The fossilized carboniferous forest shown here is in Victoria Park, Whiteinch, Glasgow

Palaeobotanists can tell us something of those trees which have become our coal forests. But the first feature which must strike anyone who sees a reconstructed picture of the carboniferous scene in some geological work, is the absence of broad-leaved trees—at least in the form which we know today.

There was constant war between land and sea in those days; as soon as a forest had grown to maturity, the coastal land on which it stood might subside, and then the tide would rush in and submerge it.

Although we use the term 'Carboniferous System' to designate the period of the world's history in which large quantities of coal forests came into existence and were submerged to undergo the process that transformed their vegetable matter into a mixture of carbon, oxygen, hydrogen and nitrogen, together with a certain amount of earthy matter (which we find in the form of ash when the coal is burnt), it does not follow that all the world's coal dates from this period. Some true coals have been found in the earlier Devonian System. Forests which ultimately formed coal flourished at various times during the later Mesozoic and Tertiary epochs, but the greater part of the world's coal supplies come from the Carboniferous and Permian Systems, and so the inference to be drawn is that conditions were then particularly favourable for the formation and accumulation of coal from luxuriant growths of vegetation.

The sea retreated southward during the Permian System which followed the Carboniferous, but tracts of water still held their own; one was destined to become the Mediterranean Sea, another formed the Caspian. In Europe life did not flourish so abundantly as in the Carboniferous System; in the Asiatic part of the U.S.S.R., on the other hand, The four great epochs of geological time and their main subdivisions

Primary or Palaeozoic Epoch	Cambrian Period Ordovician Period Silurian Period Devonian Period Carboniferous Period Permian Period
Secondary or Mesozoic Epoch	Triassic Period Jurassic Period Cretaceous Period
Tertiary of Cainozoic Epoch	Eocene Stage Oligocene Stage Miocene Stage Pliocene Stage
Quaternary Epoch	Pleistocene Stage Recent Stages

there are immense coal deposits of Permian age.

The Permian is the last system of the Palaeozoic or Primary Epoch. When we pass on into the Triassic System, we reach a new epoch—the Mesozoic or Secondary Epoch. In this epoch Britain was almost entirely above water and joined to the Continent. Some forms of horsetails lingered, but ferns did well and many new species appeared. The cycads increased and all sorts of conifers flourished. In Britain the Triassic was mainly a period of deserts and salt lakes ; the vegetation was open and did not form close forests.

Great carnivorous saurians began to infest Britain; a visit to Triassic England would have shown us some other interesting creatures, and passing on to the Jurassic System we find monsters galore.

Vegetation was then luxuriant, but the first impression would have been of unending pine-woods. The Cretaceous System, which takes its name from the chalk formations that characterize it, was a period when the seas of both hemispheres encroached continually on low-lying marshlands. Sea water overflowed the huge Wealden lake of Southern England and the pine and cycad forests round its banks, killing off millions of specimens of freshwater life that could not endure the salt it brought; meanwhile another inundation from the North Sea overflowed the territory known in Saxon times as East Anglia and then turned southward.

When we reach the Eocene stage, which is the first phase of the Tertiary period, we find a complete break with the older forms of life, and a host of new but interesting creatures coming into existence, most of them direct ancestors of the animals we know today. Many specimens of those which inhabited Britain have been preserved in that huge deposit known as the London Clay.

This Eocene Britain was a tropical land joined to Norway. The receding waters had left huge tracts bare, so that the Faroes and Iceland were mountainous areas of a continent extending as far as Greenland, while Southern England was united to France. The stream of the Thames flowed past stately palms and luxuriant Royal Ferns, while the woods were fragrant with the scent of brightly coloured flowers. The London Clay has preserved for us remains of plants whose living allies characterize in the mangrove swamps of Malaya, or the inland tropical forests whose seeds and fruits are swept out to sea by great rivers. One of the commonest plants was a stemless swamp-palm, and temperate trees were almost if not entirely absent.

Animal and vegetable life in Britain in the Oligocene stage that followed the Eocene was not marked by any drastic changes, but Nature went on experimenting. The climate was not quite so hot; if not tropical, it was at least subtropical, and palms of the fan and feather varieties still grew luxuriantly in a Britain that retained most of her Eocene land, although the waters of the Atlantic on the west and the North Sea on the east were beginning to nibble at the limestone plateau that united her to France. Trees of more temperate type related to those which now grow in our country began to appear in the flora during this stage ; not one of them, however, is identical with any living kind.

We have little knowledge of British conditions in the Miocene stage which followed the Oligocene, but from European finds we may infer that the climate was gradually cooling off.

We know more about Pliocene Britain, since there are important deposits in East Anglia to tell something of its history. It was a period marked by a general recession of the seas, and we gather that the climate of Europe was still much warmer than it is today.

In the highest Pliocene strata we find the

Arctic willow and the Arctic birch. Their presence indicates a temperature of 20° F., lower than the present mean temperature, and so sufficiently cold to allow glaciers to form on the mountains and the sea to freeze over during the winter months.

But the glaciers swept down from the mountains to form ice-sheets over the whole of Britain. Vast forests were embedded in their crystal depths, and the animal life, finding no sustenance, retreated southwards.

The Great Ice Age occurred when the Tertiary period was merging into the Quaternary. Snow fell thickly upon the mountains of Scandinavia, and glaciers began to creep down the valleys. At the same time other glaciers radiated from the Alps, the Pyrenees, the Carpathians and the Caucasus. Gradually the ice accumulated until it overspread the whole of Northern Europe, filling up the basins of the Baltic and North Sea, hiding the mountains and uplands of Scotland and choking the dales of Northern England, the Midlands and Wales, while isolated glaciers sweeping southwards formed an ice-sheet that reached the banks of the Thames valley.

The forests of Britain were forced to retreat before the ice, but they were not altogether vanquished.

The Saxonian or Second Glacial deposits immediately overlying the Norfolk forest bed are marine and indicate a re-advance of the sea, which was accompanied by a most pronounced change of climate. Once more the persistent forests were routed.

Man lived in Europe in tundra times. We cannot tell when he first came to Britain, but the evidence of the skull found in 1912 in the Piltdown gravel would tend to show that he was there at the beginning of the Pleistocene Period. The flint and bone implements found with it indicate that he had already evolved the rudiments of some sort of culture, but we do not know how long his descendants managed to survive.

The tundra periods and the steppe periods that alternated with them were times of terrific tempests and blizzards that took a ghastly toll of animal life, for there is evidence that the wild animals of prehistoric tundras and steppes perished in thousands. (In 1932 in China I saw some ivory that had come from the Russian tundras.)

Whenever the advent of warmer air caused the ice to melt and the glaciers to recede, many forms of animal and vegetable life crept back to re-occupy lands where their ancestors had made their homes. After countless ages Britain became a forest once more.

The returning flora and fauna came to a Britain which had altered somewhat in shape. The North Sea was larger than in Pliocene times, although it had not yet assumed its modern dimensions, and down to the very edge of the waves stretched forests of Scotch firs, oaks, spruces, yews and birches, with thick undergrowths of aloes. From bones excavated at Ilford, Gray's Thurrock and Crayford we can obtain a fair idea of the animals that populated the forest and its clearings and the river-banks.

In the Neolithic Age the encroachment of the sea wrought much havoc in the forests. Great Britain and Ireland no longer formed part of the continent, for the valleys uniting them to the mainland sank beneath the waters, and vast masses of trees perished. But despite these losses, the forests still held rule over the land, for although Neolithic man's stone axes were polished and ground to give him a better cutting edge, the felling of trees was still a long, wearisome process. Oak, ash and yew were the principal trees.

Neolithic men must have lived on undisturbed in Britain until about 2000 B.C. Then came another set of invaders with weapons and tools of bronze, and so with the introduction of metal implements came the first threat to the forests, even though the days of their doom were still far away.

About the time of the arrival of the Bronze Beaker folk, roughly 2000 B.C., a climatic change took place. The warm, damp conditions which had prevailed for the previous two thousand years were replaced by a dry (sub-Boreal) climate, which rendered life easier for the invaders.

This sub-Boreal climate was man's ally against the forests which he feared and detested. It put a check on the growth of the 'damp' oakwood (common oak, *Quercus Robur*) and its dense, tangled undergrowth of briars and brambles that constituted his chief enemy, and so afforded him larger areas for settlement. On heavy, ill-drained clay soil the vast masses of damp oak, hazel, hawthorn and blackthorn, with all their undergrowths,

From the Director, Geological Survey and Museum. By courtesy of the Controller, H.M. Stationery Office

(Above) *A submerged forest near Little Galley Hill, Bexhill. Tree stumps can be seen projecting from pale clay.* (Right) *On Merrow Downs stands this remarkable double yew tree of the Roman period which has seen the whole of recorded English history: it has seen England invaded by Britons, Romans, Saxons, Danes and Normans and it still lives on*

J. Morewood Dowsett

formed an impenetrable barrier. Neolithic man found congenial dwelling sites on the chalky uplands where forest growths were not so luxuriant. Men of the Bronze Age practised agriculture.

The men of the metal ages needed charcoal for their smelting furnaces. For this reason they made more frequent onslaughts on the trees of the forests than their Neolithic brethren. About 700 B.C., when the men of the Iron Age were beginning to people Britain, the climate underwent further changes. This was the 'Sub-Atlantic' phase, and with the increase of moisture, the damp oak-woods took the offensive again, driving the human invaders back to the uplands. Through the forests were numerous rough tracks, formed mostly by the passage of herds of four-footed creatures who took the same route again and again to their drinking-places and pasture-lands or on their seasonal migrations.

The advent of the Belgae marks a new stage in the human warfare against the British forests. They were a mixed race, with a strong infusion of Germanic blood in their Celtic make-up, and inherited from their Teutonic ancestors the instincts of forest dwellers.

In 55 B.C. so much land was under cultivation that, when Caesar's first expedition found itself short of supplies, foraging parties reaped sufficient corn from the Walmer district to feed his troops for three weeks. Both Caesar and the Britons found the forests a true ally, and although the Romans were nominally victors, Caesar was forced to realize that Britain could not be conquered except by a series of campaigns on a larger scale.

Nearly a hundred years were to elapse before the next Roman invasion took place, and meanwhile deforestation continued.

We have too little evidence of the transition from Roman Britain to Saxon England, but we do know that the arrival of these Teutonic invaders from the Continent, known as Angles, Saxons and Jutes, marked a new stage in man's attitude towards the British forests.

It was a custom of that period for any stranger visiting a Saxon village to blow a horn to announce his coming while still in the forest zone that enclosed it. Failure to do so involved the risk of being slain by the first person he met.

The early Saxons despised the luxuries of civilization. They had no hankering after the delights of urban life, and so they ruined and left the Roman cities of Britain desolate for many years. In rural areas they took over a legacy of Rome in the trees which the Romans introduced. The campaign of the immigrants against the forests was not an orderly one, but took the form rather of spasmodic clearances of woodland where required for the plough.

The records of Domesday Book show that the process of deforestation by the earlier settlers generally took place by enlargement of areas already under cultivation. Agricultural communities cannot thrive unless forest clearances are profitable and have adequate water supplies. When the Saxons were firmly established in England, the increase in their population demanded a far larger supply of timber for housing purposes than in Roman Britain, and they often added one wooden building to another as their means increased. Hence there was a constant demand for wood and a continual felling of trees. This was increased by the constant need to rebuild portions of the city after the fires that ravaged it.

The Norman Conquest made no difference to this practice. In 1077 there was a huge fire, "such as never was before since London was founded", says the chronicle. These fires continued in London until the reign of Richard I, when the aldermen ordained that in future all houses should be built of stone.

William the Conqueror, and later kings of England, claimed the privilege of having "his place of recreation wheresoever he would approve", but they merely followed the example set by Saxon and Danish predecessors, until at last there were 68 Royal forests belonging to the Crown, and 13 chases owned by individuals, who received them from the Crown for services rendered. It was possible for a very large area to be scheduled as a 'Royal forest', although perhaps barely a quarter of the land within its boundaries was actually wooded. It would include expanses of arable land, with adjoining villages and even towns, as in Windsor Forest which comprised parts of Buckinghamshire, Middlesex and Surrey in addition to the south-east portion of Berkshire: altogether it had at one time a circumference of about 120 miles, which included the town of Guildford. In later centuries the forest territories dwindled, but in the reign of James I they still had a circuit of 77 miles, which had decreased to 56 miles in 1813.

Submerged forests naturally offer fruitful fields of research to geologists, zoologists and botanists, because subsidences took place at different periods of the world's history. There are many submerged forests in England, the North Sea and the Dogger Bank. No part of England has undergone so many transformations as the Fen District. For millions of years forest after forest flourished there and then died when unable to resist the chilling onslaughts of the peat, which in turn dried up and allowed the formation of soil suitable for the growth of fresh battalions of trees.

No wonder the Forestry Commission, which has been in existence for only twenty-two years, is still grappling with enormous difficulties. But it would be idle to expect that the neglect and destruction of centuries could be repaired in a couple of decades.

Peter A. Ray

A Cotswold Festival

by LAURIE LEE

In the kitchen there is a fierce bubbling of flames and water, and rainbows of reflected sunlight on the ceiling. My brother and I, washed and anointed with brilliantine, turn and run out into the yard.

We are met by blades of heat and bursts of cuckoos, and the garden is a turmoil of bees and scratching hens. But we look with traditional suspicion at the sky. Each feathery lamb's-tail is a likely scourge, each mothball of cloud a potential storm, and to ensure against the always possible disaster we make sweeping, though secret, commitments to God.

It is June, Whitmonday, and our suits are new and the village is turned inside-out like a conjurer's sleeve. The air is full of spirits, of fabulous toys and incredible wonders. Trees and smoking chimney-stacks, twisting together in the lazy wind, produce a special genie of excitement, and the cottage windows gleam and hang out a magic chain of suns.

Tense with the enjoyment of the hour, we walk along the road. There is a smell of tar and lilac in our nostrils, the road looks rich like a new carpet, we strike sparks with our boots as we walk and look luxuriously about us.

Girls are gathering flowers in the gardens, shoes are being blacked and ribbons tied, Joe Partridge practises his flute and a cart goes by with a pile of flags.

By the gap in the wood we pause to look across the valley. It swims with butterflies and birds, it heaves with green and yellow trees, it throbs with heat. The broad lake, broken by lilies, beaten by swans and arrowed by the flight of fish, quivers between the crevice

Val Doone

From breakfast untasted through excitement, we break out into a morning especially radiant, where farms and fields and grey-stoned workshops, losing their normal outlines, settle down under the extravagant and lazy sunlight of this traditionally careless day

of the hills. And white-stoned Elcombe, away by the quarries, dances in a wilderness of thorn. Today everything opens for us and for our curiosity, the valley is like a brilliant ship, it rocks with us, it flutters a million pennants and booms with ceremonial guns.

We gaze across the Squire's great house, across his gardens and witch-like cedars, across his walnut trees and cider-presses to the field away beyond; his field, but today our own. For in those distant oaks we shall hang our swings, and we shall dance on those private grasses and make merry among the bushes. And always it shall seem closed and hidden except this one day when we possess it.

* * *

Now, in the steep field, with ropes and several ladders, we survey the trees. Bullock, the builder, trumpeting his cigarette, looks up and frowns at the lofty limbs. Each year it is the same problem, and each year we make the same bold decisions. A ladder sweeps into the air, a searching spear into the remote no-man's-land of the upper branches. The thick ropes, smelling of oakum and the sea, are trailed aloft and knotted into place. The seat is shaken to the ground and the whole thing hangs ready, a swaying, dangerous engine of delight.

"That'll do," says Bullock. "Like a go?"

I grip the rope and pull myself into the broad and slippery cockpit. Bullock stands behind me and I shoot like a rocket from his hands, soaring out over the valley and up among the strange knots and powdery shadows of the creaking oak. Each sweep is a sicken-

Laurie Lee

Armed with staves for flags or streamers, our eyes screwed up in a frenzy to photograph each minute, we watch the village decorating itself, and the Procession arranging its strident meeting-place where—

ing ordeal of fear and death, but I am having the First Swing, and Walt Kerry, that unscrupulous pirate of every pleasure, is outmanœuvred and confounded.

* * *

By noon we are back in the village, sauntering voluptuously past the shuttered schoolroom. Walt Kerry appears, his hair spiked to the sky, his mouth open and all his teeth shining naked at us like a bristling of guns.

"Where y'bin?" he demands.

"Nowhere," we say.

"Oh, yes y'ave."

"Oh, no we 'aven't."

His fists close hard as stones.

"Wan' a good 'iding?" he asks.

We don't, not this morning.

"We just seen Bill Bullock," says my brother.

"Where?"

"Goin' to the field."

"He 'ad four swings," I say.

"An' a trolley," says my brother.

"You stop 'ere," says Walt, and sticking out his elbows he plunges off down the lane.

* * *

At the Recreation Hut the flags are coming out. We go there and sit on the wall and watch. Here is a rich and splendid sight which never fails to ring the first gay bell of celebration. Across the green bank lie the flags in all their multitude; striped, squared and circled with traditional emblems; ensigns, Union Jacks, tricolours, crescent moons, and all the stars and suns of the orient. And many that have never belonged to any country, with moths and dragons and creatures of nightmare on them. For twelve months they have lain in dust and darkness, but today they burst in a loud shout over the village, and oh, we sit and watch and lust after them all, no matter what they are. All, that is, except the very small ones, which we ignore and relegate to the insignificant infants.

And the girls are there, crouching and chattering, their mouths full of flowers and string, intent on the decorations. Upon the grass are piles of staring moon-daisies, and branches of lilac and intoxicating elder-blossom, and great white Whitsuntide bosses. The girls are arguing and crying out to one another and tying the blooms to the top of each flagpole, and the remainder will be bound with leaves into their hair. As they kneel on the ground among all the precious coloured rags we forget their tiresome tricks and schoolroom tempers; they flame in their dresses and are strange among the flowers; they have rare names and a church-like mystery, and we ache for them to look up and recognize us.

And there against the wall, with its stained but glowing picture of 'The Good Shepherd', stands the Banner, the vanguard of our splendour. It is already topped with flowers, and its tall yellow poles, its ropes and gilded tassels, are woven thick with ivy leaves. To hold a pole, or at least a string of this banner, is the summit of our pride, and we scheme for it, secretly, weeks in advance.

But gazing at this emblem I am suddenly aware of Jenny King, more plump, more wanton than ever, posturing beside it. She comes from a wild family of 'drunks' and poachers, and she is my squaw, my secret. Elder-blossom hangs from her ears, and she holds a tall red flag in her hand and is smothering it with lilac. Thick swathes of scent curl

—bouncing girls, transformed by flowers and trumpets, become the imps of festival, grinning with noise and colour, playmates of yesterday but today strange idols

Peter A. Ray

To the great House, sober among her trees but this day thrown open to us, we march with fanfares to the intoxication of sweets and oranges, and run in the steep fields and shout above the brazen music, drunk with the precious anarchy the Feast allows us. Returning at last to the tired cottages, where the cats move about their casual pleasures insensible to us, and our grass-stained boots are thrown in the corner, and our prizes carried to bed, where eyes coiled tight round the image of the day drowse slowly into a dream of it

Peter A. Ray

up from the yard, and I forget the Banner and swear I will carry her flag or die.

As the church bell strikes we go home for dinner. For an hour the streets will be deserted, a murmuring of plates and spoons will hang over the village and the flags will lie alone in the sun. At two o'clock we can return, select our choice, and go to the Cross to await the Band.

But I eat too much and lose my shoes. When at last I reach the Hut the Banner has gone and the flags have gone, all save one, a six-inch faded symbol of the Glory of Rome, which I seize for want of a better.

* * *

We gather round the Cross in sweating groups, dancing our flags and scrambling for position. Six boys hold up the Banner, and Walt Kerry is prominent among them. Scowling he clutches a coveted pole, militant, forbidding, and covered with warts like a riveted battleship. My brother, too, has been successful, and clinging to one of the silken ropes he shakes with anxious happiness. But the times are uneasy, and until the march begins each trophy is the centre of a storm. Boots kick in the road, there are fierce and desperate battles, girls scream, and the Banner changes hands several times. But in the end Walt is still there, though my brother is sharing his rope with someone who will not be shaken off.

The band arrives, spitting through pipes and flourishing silver valves, and we form up behind them. I look everywhere for Jenny's scarlet flag and suddenly catch sight of it. It waves in the hands of a Painswick youth and her lilac is scattered on his coat. Cold with rage I trip him up, snatch the flag and hide it in my shirt. Then the band strikes up with a bumping burst of noise, the signal for a general armistice and the march to begin. The Banner lifts and leans into the sky, and pushing our flags forward we follow, exulting.

How the drums shake, how the trumpets prance, how bright is the sun and how gay the assembly! We sweep down the road and into the village and the people come to their doors and gaze at us in awe. We stamp our feet, our music thunders, and Jenny's flag is like a flame in the sky. We are a mighty army, a host of Midian, we are ten thousand strong, valiant and splendid every one, oh, there is no end to us. We march in ecstasies of drums and cymbals, we are all twelve feet high and terrible as Turks. I look for my mother and my sisters, but when I see them, nodding and smiling at us, I ignore them and stride past like a shining prince.

In the ancient shadows of the church we have a brief service, but we are warriors, impatient to be gone.

Then we march onwards to the field, the Banner dipping under the trees, our feet shaking the hills, and the band splitting the very heavens with our pride and rejoicing. I think we are a dazzling multitude, we seem to be the whole earth marching; we compass the village in a triumph of sunshine, and summer is the land of promise and winter has buried our dead.

* * *

When we reach the field the musicians sit round on forms and blow. The flags are hung in the trees, and with Joe's flute flying like a pigeon overhead the girls dance in a circle, their flowers dropping on the ground and their feet treading the petals into a paste of honey.

The boys watch, then break up into groups, nuzzling the grass, dividing the bushes, and throwing paper darts at the trumpets. The swings are soon beating their thrilling pendulums, ticking away the afternoon to the weight of shouting children.

And all the grown-ups arrive, fluttering babies and bottles of cider, settling themselves down in family herds upon the grass. And based upon our own particular tribe we run hither and thither, attacking stray rivals, searching for orchids and blue eggshells, and blowing sweet clouds of sherbet in the air.

The village spinster arrives with her trays of home-made toffee, the Squire scatters oranges among the girls, and the band plays and drinks beer and shakes out its spittle and plays again.

And above the hoarse and drowsy dances, the stuttering cuckoos, the howling swings and the cries of tribal warfare, we strain our ears, waiting on tiptoe for the first stroke of the signal bell.

When it rings we all pause, and across the valley a tower of white smoke rises from the Recreation Hut.

Like a wave we charge down the steep banks, jumping molehills, scattering cowslips, and feeling the grass beat and tug against our shoes. Walt Kerry is flying on before, as usual, but we follow him closely, leaping like grasshoppers. Suddenly he disappears, and I pass him lying on his face in a patch of blue thistles, crying and beating the ground with rage. We sweep over him and up the yellow dusty lane, panting with heat and sweat.

In the Hut the tables are spread and waiting. There are rows of cups and rows of teapots and plates piled high with buns and cake. Every table is decorated with ivy and the windows with fir branches. A steaming urn stands in a corner and the air is exciting with smells of bread and currants. Bald Mrs. Lewis and her troupe of willing helpers shrink meekly against the wall, smiling and rather frightened. We break madly around the tables, we bellow grace and rattle cups, and the hot sweet tea passes up and down and the buns pass into the bottomless pit.

But poor Walt Kerry doesn't come at all. They say he fell flat into a cow pancake and had to go home to wash. Cakes are put aside for him, but it is not the same.

* * *

Back in the field fresh ceremonies draw out the evening. All the withered flowers are collected and a girl is chosen to carry them to the lake where they are thrown into the water. Coloured bags of sweets are tossed among the children and in one they will find a sixpence. Then, as the shadows strip the sun and the golden cock turns red above the church, a trumpet is blown and we line up for the races. We feel as heavy as elephants.

Bill Bullock and the Vicar call through their hands, the families cheer their young, the girls their champions, and we dash up and down among the nettles, gasping in the agony of competition. We jump and hop and run, straining every effort, for prizes and a year's renown hang upon our successes, and only the damned think of the swings now.

There is a three-legged race for fun, and I find Jenny, her hair loose and her face yellow with buttercups from rolling on the grass. We tie our legs together with a rag, we wind our arms about our waists and run together in a dream, bound as if we belonged to each other, a strange fleet animal which is both of us. We like being like this.

After the races, and the diplomacies of the judges, the prizes are given; scarlet cricket balls, yellow bats, pistols and fascinating boxes, the final trailing feathers of the day. We are full and weary now, the swings are deserted, the flags have disappeared. Everything has been won and tasted and enjoyed, the dew comes up and there is no more toffee. Blue twilight rolls like smoke down the valley, the musicians disperse, rubbing their sore lips, and we all start for home laden with trophies, and boasting.

Only the lovers remain among the bushes; their time just beginning.

The Cotswold Village

Across Cape York with a Pack Team

by DONALD F. THOMSON, D.Sc.

Cape York Peninsula, the north-eastern extremity of Queensland, divided only by the Torres Strait from New Guinea, has, in remote epochs of history, served invading cultures as a point of entry into the Australian continent; this account by a distinguished naturalist of his first expedition to the region has particular interest at a time when invaders of a different nature are arrayed against it

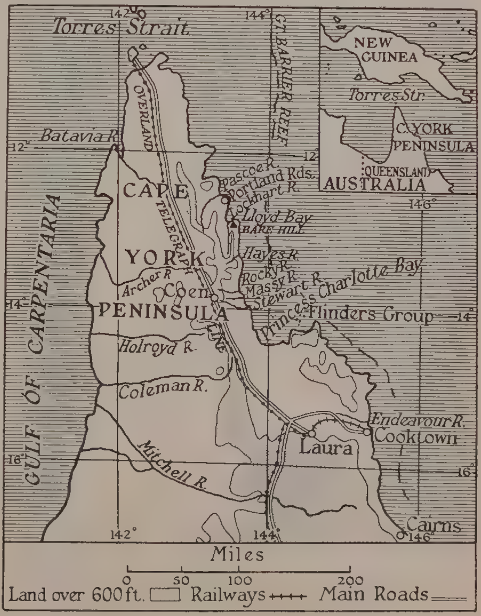
Every field naturalist feels a peculiar pleasure, mingled with regret, when he looks back on his first expedition. Pleasure at the vividness of his first impressions; regret, because, though he may have seen grander things, he has never been able to recapture that first splendour. I confess to that kind of feeling about Cape York Peninsula, where I made three expeditions, and lived for three years with the natives.

This Peninsula, which forms the north-eastern extremity of Queensland, is a region of special interest both to the naturalist and the anthropologist, for it lies on the threshold between Australia and New Guinea, and forms the gateway through which invasions of culture from the northward have entered Australia. We know that the Blackfellow entered Australia by sea, accompanied by his boon companion yellow dog dingo, and therefore that mankind did not evolve in the Australian continent. But there is evidence that he has, over a long period, been subjected to the influence of the waves of culture from northern neighbours entering by way of Torres Strait.

Up to 1928 little scientific information was available about the peoples of this area. The expeditions I accompanied wished to study the aboriginal tribes and to carry out zoological work. In the first year we made a survey of the area, returning for two further years to carry out more detailed work on the anthropology and natural history.

Our jumping-off place was about a thousand miles north of Brisbane: the Flinders Group of islands in Princess Charlotte Bay. Here, in the middle of the night, our little coastal vessel anchored in the Rattlesnake Channel between two barren rocky islands. This was our last contact with civilization for many months. Early on the following morning we explored the fine coral reef, and made acquaintance with the strange 'Jumping Mangrove' or 'Kangaroo' fish (*Periophthalmus*) which combines ability to leave the water and climb trees with an insatiable curiosity! We soon found that by playing upon this trait we were able to secure specimens for examination. In vain we pursued the elusive creatures across the mud flats; but when we stopped and offered our bare feet for examination they returned in force and climbed over them—using their pectoral fins as a seal does its flippers.

After a few days on the reefs of the Flinders Group, we sailed in a trepang or bêche-de-mer



Stanford, London

All photographs by Donald F. Thomson

Rugged, mountainous country characterizes the east coast of North Queensland. This photograph was taken near Cooktown, looking towards the mouth of the river Endeavour, where Captain Cook beached his ship in 1770

lugger across Princess Charlotte Bay to the Stewart River on the eastern shore.

The estuary of the Stewart River is the home of the Yintjingga tribe, most renowned of the seafaring peoples of the east coast of Cape York Peninsula. Their fame has spread, not only as hunters of dugong and turtle and for the prowess of their harpooners, but for the potency of their dugong magic, which is no less important in hunting. These people are also known for the skill of their rainmakers. Now the Yintjingga, a fine tribe, are declining so rapidly in numbers as to be nearing extinction. As we entered the estuary of the river we had a glimpse of them that we shall long remember. The season of the south-east winds had already set in, and the people were living on the beach just above high-water mark, in beehive-shaped 'wurlies' of Tea tree bark. Here and there little naked children were darting about the sandbank, while the men waded knee-deep in the shallows with fish spears poised. Farther off shore, two or three black and white Australian pelicans were conducting their own fishing operations.

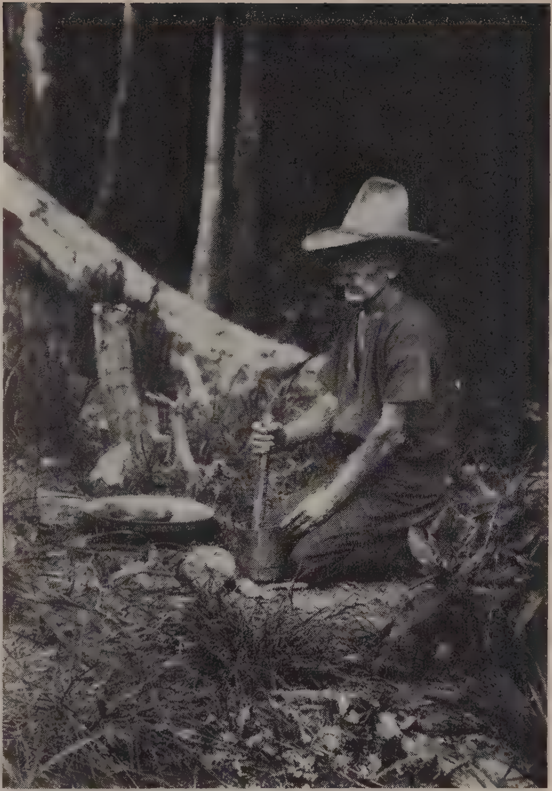
We settled down to live with the Yintjingga in their camp, and learned much of the observances, tabus and ritual which regulate and restrict almost every activity of a people who live by the use of the long harpoon. Game was abundant, and though wallabies were present on the plains in hundreds, they were rarely hunted—there were so many dugongs, turtles and fish.

The common Cape York wallaby is the Agile Wallaby (*Macropus agilis*) and was probably responsible for the English name 'Kangaroo'. For when Captain Cook beached the *Endeavour* at Cooktown, in the river which now bears the name of his famous ship, he recorded the name kangaroo which the Koko Yimidir tribe of the district applied to the Agile Wallaby. It was found subsequently that the name was pronounced 'ganguru.'

At the Stewart River we secured a team of horses from an old packer who had come down with a big string of horses and mules to load stores for Coen, an outpost lying fifty miles inland on the central highlands along the Overland Telegraph Line. Stores were also packed from the Stewart River to the Batavia River Goldfield, away to the north-west. At this time there were no roads on the Peninsula and every bag of flour had to be transported on pack-horses, or, for short distances during the dry season, in an old army transport waggon which threaded its way among the timber to the track over the range. A 50 lb. bag of flour cost 25s. and everything else was dear in proportion.

Even mails were carried by pack-horse and the contractor who ran the mails once a fortnight each way between Coen and Laura, near Cooktown, was obliged to maintain hundreds of horses. No feed is grown anywhere on the Peninsula, and as the horses are merely hobbled out at night to graze, they must be changed after each mail run.

Many of these mailmen in remote outposts of Australia have remarkable records for reliability and punctuality, and the mailman must never wet his mail bags; he generally makes it a matter of pride that no other traveller should be permitted to cross a flooded river ahead of him.



This old bushman, seen with his hand dolley-pot in the jungles of the Rocky River district, had been prospecting on the Peninsula for over 40 years

Travel is largely regulated by season and weather conditions. The year is divided into two well-defined seasons, the wet, or north-west monsoon season, from March to April, and a dry season, corresponding to the period of the south-east winds, from April to November. The south-east season is relatively cool; with clear, dry days and cold nights. The hottest period is just before the breaking of 'the wet'. Each afternoon, for several weeks, lightning on the horizon grows more intense, heralding the approach of the thunder storms with which the season breaks up.

My first survey journey was made from the Stewart River northwards under the mountain ranges of the east coast, as far as the valley of the Lockhart River, which flows into Lloyd Bay. This area contains some of the finest tropical jungle on the Peninsula, and, travelling with pack-horses, it proved a severe journey.

Reluctantly bidding farewell to our friends among the Yintjingga tribe at the Stewart River, we set out in June for the Lockhart River. In this neighbourhood a range of mountains runs a few miles inland parallel with the coast. Normally, June, which is the height of the dry season, should have been dry, but much orographic rain falls in the low-lying belt below hills which proved to be very rough and often heavily timbered. Fringing the rivers there were belts of heavy rain forest, with dense tangles of lawyer cane and lianas, intersected with watercourses which had cut their way down between steep banks. On the lower reaches, the rivers were generally thickly fringed with mangroves, through which we had to cut our way with axes. We were frequently compelled to make long detours to find crossing places for the heavily laden pack-horses, but even so the jungle was in places so dense that the horses became entangled and had to be cut

free. Fortunately most of them were old stagers, accustomed to 'packing' awkward loads through the bush and able to gauge the width of their loads and to pick their own tracks. Such experienced animals are especially valuable for when they are jammed or entangled they do not plunge and kick, and so damage their packs, but wait to be cut free.

The rivers, such as the Massey, the Rocky and the Hayes, though their waters were nowhere very deep, had worn channels so deep that it was difficult to find crossing places for the horses. In this country pack-horses are not hitched together, but driven behind a saddle horse which goes ahead to break the trail. Now and again one of the pack-horses would blunder into a wasps' or hornets' nest, or brush a Stinging Tree (*Laportia*). It would then break into a gallop, bucking until its load was scattered far and wide. We were inexperienced with pack-horses at this time, and in the rough going many of the loads shifted, so that we had innumerable halts while packs were adjusted. Tommy, who acted as our horse-boy, guide and friend, quickly had the horses named from peculiarities of temperament. There was 'Buckjumper', 'Mate Belong Buckjumper'; then came 'Brown 'Orse'. Each had his 'Mate Belong Him'. Failure to see that loads are properly balanced means sore backs—the bane of the packer. While the normal load for a good pack animal is about 200 lb. for long stages, in this class of country few carried

(Opposite: top) *The author's pack team making a detour on the sand beach of the eastern seaboard;* (bottom) *Lockhart River Mission near Lloyd Bay. Note the Papuan type of vegetation which distinguishes the humid tropical jungles of this area.* (Above) *Swamp of Pandanus and Tea trees, called 'Paperbark'. The leaves yield fibre for baskets and 'dilly bags' and the bark is used for making troughs and thatch*

more than 150 lb. We learned to select the steady horses for the fragile loads, and disciplined the troublesome ones by loading them with bags of flour or sugar which could be replaced as often as they were thrown.

On the river flats our way was barred by vast plains covered with Blady Grass (*Imperata arundinacea*), growing so tall that it sometimes reached above our heads as we rode on horseback. Mosquitoes and venomous snakes were numerous, and under the mountains the atmosphere was intensely humid. To add to the difficulties of the first journey, although it was the middle of the dry season, rain fell heavily at night, and often during the day, and our packs were saturated. Once or twice we were obliged to make camp to dry our gear and equipment. Mosquito nets and clothes smelt rankly of mildew, and the tent and leather equipment was covered with a growth of green mould.

In the swamps of the Rocky River district wild pigs were abundant, and here we stopped to hunt for meat while the gear was hung out to dry. There are no reliable records as to when these pigs were first introduced to the Peninsula, but they have been running wild for a long time, and, with the abundance of food, some of the boars attain tremendous proportions. Hunted on foot in the long grass of the swamps, they were formidable, and more than once we came face to face with an angry boar at a distance of only a few yards. We found that the best method of handling these animals was to mark down a tree with low branches into which it was easy to climb in emergency, then to wait until the boar was close enough for us to be sure of placing the first shot close behind the shoulder. If the first shots failed to stop him and he charged, there was still time to reach the tree.

Between the Stewart River and the Lockhart we found very few natives, for they had recently been persuaded to leave their own tribal territories and gather on a mission station.

There were days when in ten or twelve hours' hard travel we progressed no more than five or six miles. But there were rewards that more than compensated for the difficulties, and at Rocky River we met with the finest tropical jungle I have ever seen. In these regions, on the eastern coastal area, the Papuan influence in the fauna and flora is dominant, and there were many interesting problems of distribution to be studied. In this area of orographic rain we came suddenly upon the true Pitcher Plant (*Nepenthes mirabilis*). Some of the pitchers of these exotic plants were seven or eight inches long, filled with a peculiar-smelling fluid in which insects had been trapped and drowned. These plants, like the sundews and other carnivorous forms, occur chiefly in low-lying, ill-drained, swampy land where nitrification in the soil is at a minimum. In North Queensland the Pitcher Plant is widely known among settlers as the 'Dutchman's Pipe Orchid'—illustrating the popular idea that any exotic-looking plant is an orchid.

On the Rocky River we also came across a curious frog that differed greatly from the familiar Tree Frogs (*Hyladae*). It was chiefly remarkable for its inordinately long nose and the rapidity of its movements. This was *Rana papua*—the only *Rana* in Australia. It is a true Papuan frog which has penetrated into this limited area of the east coast of North Queensland. We also met the Fawn-breasted Bower Bird (*Chlamydera nuchalis*) and many Black Cockatoos—not, however, the familiar red and yellow-tailed species that we knew so well in the Australian bush, but the Great Palm Cockatoo, a bird common to tropical north-eastern Australia and to New Guinea.

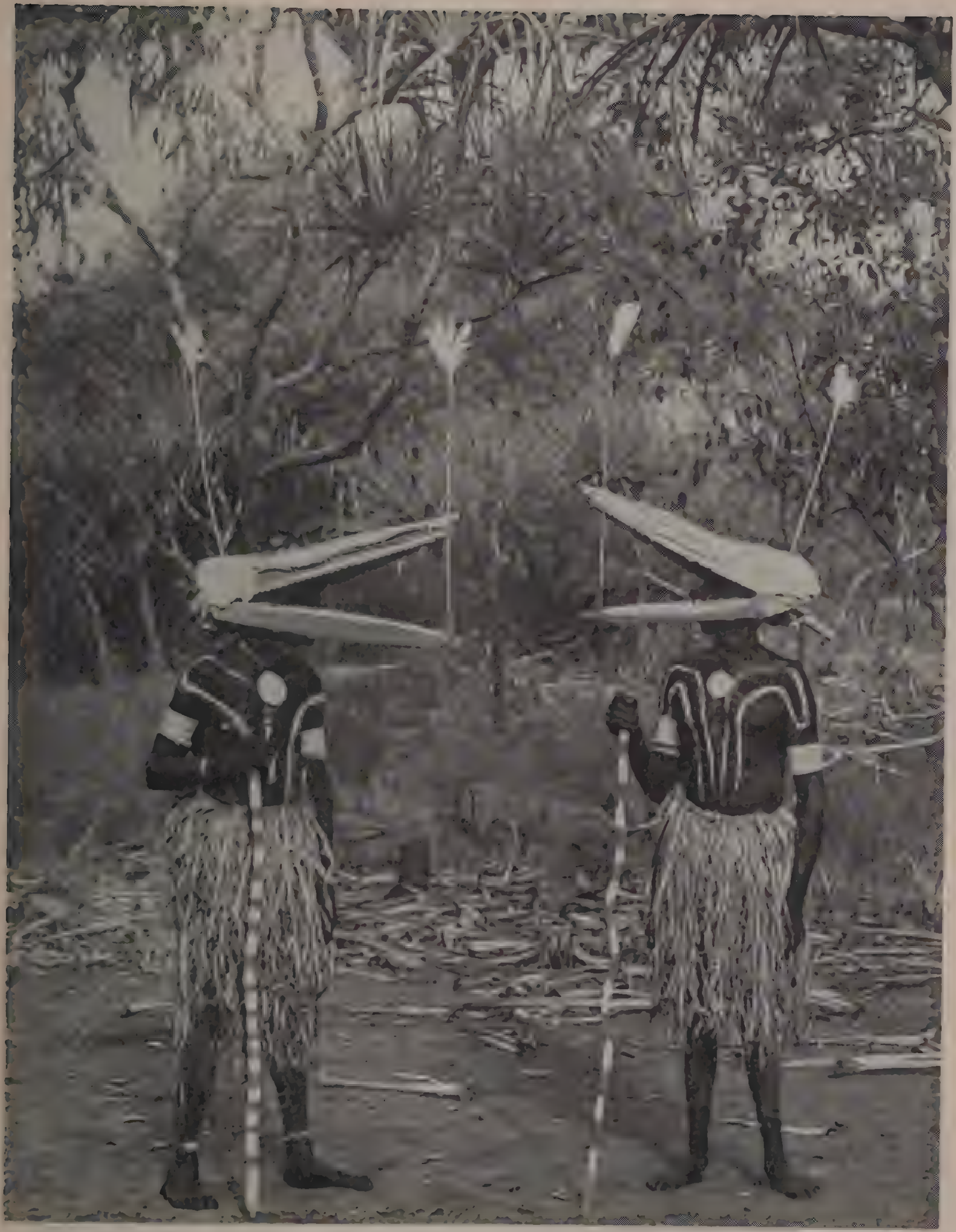
In spite of the severity of travelling conditions, a number of prospectors or 'fossikers' have penetrated into these humid jungles, and some rich 'pockets' of gold have been found. Farther to the north, goldfields have been opened up at Portland Roads and at the Batavia River. In the jungle we came suddenly upon a prospector's home in a little clearing among the hills on the Upper Hayes River. Here we met Mr Tom Preston, a fine bushman who, forty years before, had left Victoria in quest of gold and had been prospecting on the Peninsula ever since. He had a small, rich strike which he was investigating with a hand dolley-pot.

After several days of hard travel we emerged from the jungle near Bare Hill, close to the Lockhart River, and there made friends with the Superintendent, Mr H. R. Rowan, of the Mission which had recently been established there. We were glad of the opportunity to spell our tired horses, to dry our wet and mildewed gear and to enjoy a well-earned respite.

At Lloyd Bay we made our first contact with the Koko Ya'o people of the Pascoe River area, and learned the extent to which Papuan influence has modified the culture of this area.

From time to time during the first year's survey we settled down for a few weeks, to make contact with the natives. They are all seafarers—canoe-makers and harpooners who make long journeys to the reefs and islands off the coast in quest of turtles and their eggs, as well as dugong, or 'sea cows'. Among them we found masked dancers, similar to those of the Gulf district of Papua. Their elaborate headdresses were often of great size, and were associated in this region with a culture hero I'wai—the Crocodile—whose miraculous deeds were recounted in a splendid saga that chronicled his wanderings in myth. There is evidence for the belief that these sagas, preserved in the memories of the old men in each generation, and recounted by them during the ceremonies associated with the totemic ancestors and culture heroes, have an important bearing on the history of the people. Though the Crocodile Culture Hero—I'wai himself—who was the central figure in this saga, was undoubtedly mythical, the record of his struggles to gain a footing for his cults among the warlike and hostile people probably inspired the hostility extended by the inhabitants of Cape York towards the invading or visiting Papuan peoples who made long voyages from Torres Strait down the eastern shoreline of the Peninsula. Each of the ceremonies in which the masked dancers of the hero cult appeared, was in reality a little pantomime, representing a recapitulation of the doings of the culture hero I'wai.

Associated with the hero cult in many parts of the Peninsula is the mummification of the dead, a custom which undoubtedly entered the country by way of Torres Strait. The funeral customs as well as the disposal of the dead body vary in different parts of the Peninsula.



Among the peoples on the coasts of Cape York Peninsula hero cults of Papuan origin are still practised. These masked dancers were photographed on the lower Batavia River, on the west coast. The great headdresses, associated with the Kingfish, are similar to those worn on the east coast where they are identified with the cult of I'wai, the crocodile

One of the author's party in camp suffers a hair-cut at the hands of 'Tommy-barber', who was guide, philosopher and friend to three expeditions on Cape York Peninsula

Evidence of Papuan culture was shown in the smoking pipe used throughout Cape York Peninsula, which consists of a hollow cylindrical bamboo with a small perforation in one side. This pipe, called *marapi* on Cape York, is identical with those in general use in New Guinea. Throughout eastern Cape York Peninsula the great baler shells from which the columella has been removed are used as water-vessels and cooking-pots. Much of the food, especially the flesh of stingrays and of dugong and turtle, is carefully boiled in these vessels. This practice of boiling food is not general among primitive peoples in Australia, whose food, though skilfully and even elaborately prepared, is usually cooked either by roasting on the ashes of the camp-fire or by being buried in an oven in the ground in which hot stones or pieces of ant-bed furnish the necessary heat.

After leaving the Lockhart River district we returned southwards to the Stewart River where we had already established a depot. Then, proceeding through Coen, a little settlement in the highlands of the central range, on the Overland Telegraph Line, we set out westwards on a survey journey to the Gulf of Carpentaria. We followed the course of the Coleman River and finally settled down to live with a group of people who proved to be the most primitive yet remaining on Cape York. We found them on the desolate shores of the Gulf of Carpentaria. After crossing the mountain ranges of the east coast, the character of the Peninsula presented an extraordinary change. In place of the jungle—the tropical rain forest—we met with savannah woodland and forest, consisting of more or less stunted Eucalyptus trees, chief of which are stringy barks, such as *Eucalyptus* *tetrodonta*, and the bloodwoods. The country is often open and park-like, carpeted with long green grass. Instead of the frequent showers of the east coast, the atmosphere was dry, and the nights cold, with a heavy dew.

Early in the dry season the grass dries off. It is then burned systematically by the natives who by this means catch a large amount of game, especially wallabies and kangaroos, snakes, and giant *Varanus* lizards, known in the Australian bush as 'goannas'. As we travelled, the natives were always on the look-out for the nests of wild bees or 'sugar bag' and for goannas and small game such as bandicoots, which they collected and carried on to be cooked at the first camp. In an average day's travel with the pack team we covered from fifteen to twenty miles. Sometimes we halted at midday and spelled the horses, making a second stage in the afternoon; at other times we travelled through the day, making camp early in the afternoon. During the afternoon we were on the look-out for a suitable camping place with water for the horses and good feed so that when they were hobbled out they would not wander far.

One of the greatest annoyances associated with travelling with a pack team is the loss of time spent in horse-hunting. Only some of the horses wore bells, and we learned whenever we woke during the night to listen for the horse bells, so that the horse-boy would lose little time in the mustering of the horses in the morning. At 'small daylight' or 'first pigeon cry', as the boys called it, the horse-boy stirred the camp-fire, put the billy on to boil and set off to muster the team.

At the end of October we set out on the return journey to the east coast. It was now intensely hot, and feed and water for the horses were so scarce that each night's camp was a problem. The water-courses themselves had been dry for several months but water was generally to be found in the deeper lagoons situated some distance out from the rivers themselves. The rivers flowing into the Gulf of Carpentaria are generally fringed by Paperbark (*Melaleuca leucadendron*) trees which grow to a height of seventy or eighty feet. The thick paper-like bark of these trees, from which they derive their popular name, provides valuable material for the thatching of native wurlies and for protection against the rains of the early wet season.

During September and October the paperbarks were in full bloom and the air was heavy with the sickly-sweet odour of the bottle-brush flowers. Hundreds of honeyeaters and honey-eating parrots frequented these trees for the nectar they extracted with brush tongues specially adapted for the purpose. But at night the air was loud with the discordant screams of Flying Foxes or Fruit Bats (*Pteropus*) of which there are several species. Every night during our journeys along these rivers the air resounded with their cries. Their 'camps', in which during the day they hang wrapped in their membranous wings, are generally situated in patches of dense jungle, especially in 'islands' in the river courses, or far away in dense mangroves on the tidal reaches. For, notwithstanding their somewhat heavy flight, they are capable of travelling long distances to reach their feeding-grounds. In spite of their strong smell, these fruit bats are much relished as food by the natives.

Long before we reached the depot left at the Stewart River, 'the wet' had broken. Heavy rains impeded our progress, and made travel even more difficult. But within a few days of the breaking of the rains, the whole country was transformed: the bare, arid, desolate appearance that the hills and much of the country presented at the height of 'the dry' was replaced by a carpet of bright fresh green grass, which, within the course of little more than a week, was studded with wild flowers. Shallow lagoons appeared on almost every plain, and in a remarkably short time these sheets of water were bright with aquatic flowers and populated with wild fowl.

The rapid growth of long grass affords protection to kangaroos, wallabies and bandicoots which have been relentlessly hunted during the period following the burning of the grass. These animals are now able to breed in comparative safety in the dense cover. Before the grass is sufficiently dry to be burned again, the young will have left the mother's pouch and be able to fend for themselves. If it were not for this much-needed protection afforded to these animals by the wet season, their numbers must long ago have been greatly reduced.

We returned to our base camp during December and once more settled down for a time with our old friends the Yintjingga. For some weeks they remained camped in their beehive-shaped houses on the open sandbeach, but as the wet set in in earnest they resorted to the jungle behind the sand dunes, where they built large circular communal houses for protection against mosquitoes which appeared in clouds during this season.

Thus ended our preliminary survey which revealed the richness of the area both anthropologically and zoologically.

Apple-Growing in England

by RAYMOND BUSH

The author was for many years engaged in commercial fruit-growing. Now he devotes himself mainly to advisory work and has unusual opportunities for noting the trend of the fruit-growing industry and its reactions to applied research

A GREAT many people believe that better fruit grew in England a generation or two ago than is grown today. At times I have agreed with them, yet, having been concerned with fruit-growing for a full generation, I realize that we are all apt to over-estimate past averages, to discount or even forget our failures, and to view our successes through the rosiest of spectacles. Certainly the fruit-growing industry has seen many changes, the ruthless elimination of many once highly esteemed varieties of apple, pear and plum, and the occasional collapse of soft fruits, such as strawberries and raspberries, which take a deal of explaining. But to suggest that the modern fruit-grower cannot grow a better Cox's Orange Pippin or a bigger and better crop of Bramley's Seedling than his grandfather produced is a fallacy.

Our grandfathers at any rate missed the immense help which has been given to the modern grower by Research Stations such as East Malling and Long Ashton, where work of vital importance has been and continues to be done. Investigations and trials by their workers have exerted great influence in improving the standard of home-grown fruit, as the following example will show. No more than twenty-five years ago the king of all apples, Cox's Orange Pippin, could only be grown profitably in a few favoured areas. One was advised to plant only experimentally and on a small scale, "to see if it would do". To be suitable, soils had to be warm and well drained and the aspect sheltered. Today, many thousands of acres of Cox's are planted and cropping well in all aspects: on Weald clay, sand, gravel, chalk and slab limestone. It is 'anybody's apple' provided it is worked on the right stock, that fungus and insect pests are properly controlled, and that the three essential manures, nitrogen, phosphate and potash, are supplied in balanced ratio.

Before classification of stocks was inaugurated by Dr Hatton and the staff of East Malling Research Station, fruit-growers had to rely upon the nurseryman for the purity of the stocks worked. Some strains were uniform, others were not. Even among crab stocks, which supply the impetus for those enormous trees that grace the grass orchards of Kent, it was not uncommon to find a percentage which refused, like Peter Pan, to grow up. Even amid so-called Paradise or dwarfing stocks many rogues persisted and were worked and distributed to the regret of the fruit-grower. Now all this has been changed and one can plant out a hundred acres of land with the assurance that, provided the soil is staple, every tree will be identical with its neighbour.

For some years before the war a capital of £250 an acre was not considered unreasonable to allow for bringing an intensively planted orchard into bearing. Twenty-five years ago a £20 horse was the motive power for cultivating, while today a £500 to £600 track-laying tractor seems to be essential. Where a tentative spray was applied by a hand pump at under a hundred-pound pressure, wash at five times that pressure is lashed into the tree-tops from multiple-nozzled guns. The high-power, portable spraying machine can cost even more than the expensive tractor. Cost of spray materials in 1921 stood at about 15s. an acre, today they cost over £6 an acre. After proper cultivation and spraying has been allowed for, the larger grower must think about storage. To grow a great bulk of fruit one must be able to spread its distribution over a period of months if the best price is to be made, and a packing shed and gas-store of quite moderate dimensions will run into thousands of pounds.

These rising costs of production have had to be offset either by larger crops or by higher prices. To gain the latter advertising has helped, so has cooperation in packing and storage. Cooperative packing and selling has come to stay. Essex growers pioneered the movement with their ACE brand, already well known to the discriminating public.

All photographs by Raymond Bush

May is the month of apple blossom; it is also a month when spring frosts threaten

Pre-war commercial packing on cooperative lines was operating in Cambridgeshire, Essex, Kent, Sussex, Hampshire and Suffolk, whence fruit was supplied to the wholesale markets under distinctive brands. In Norfolk a Growers' Association markets the large black-currant crop which is a feature of that county.

To grow apples fit to pack, control of pests is essential. Fungus diseases, in the commercial orchard, are controlled by the use of washes containing sulphur, applied before blossoming and after, or, in the case of apple and pear varieties which object to post-blossom sulphur (and some will object so strongly that leaf and fruit will fall), by dusting with copper lime dust. Both sulphur and copper are powerful fungicides but a nice degree of discrimination is needed to make the best use of their powers. Dusts of the two minerals are commonly used as less drastic than the wash form and are quickly and easily applied in the calm of early morning by tractor-drawn power-driven blowers.

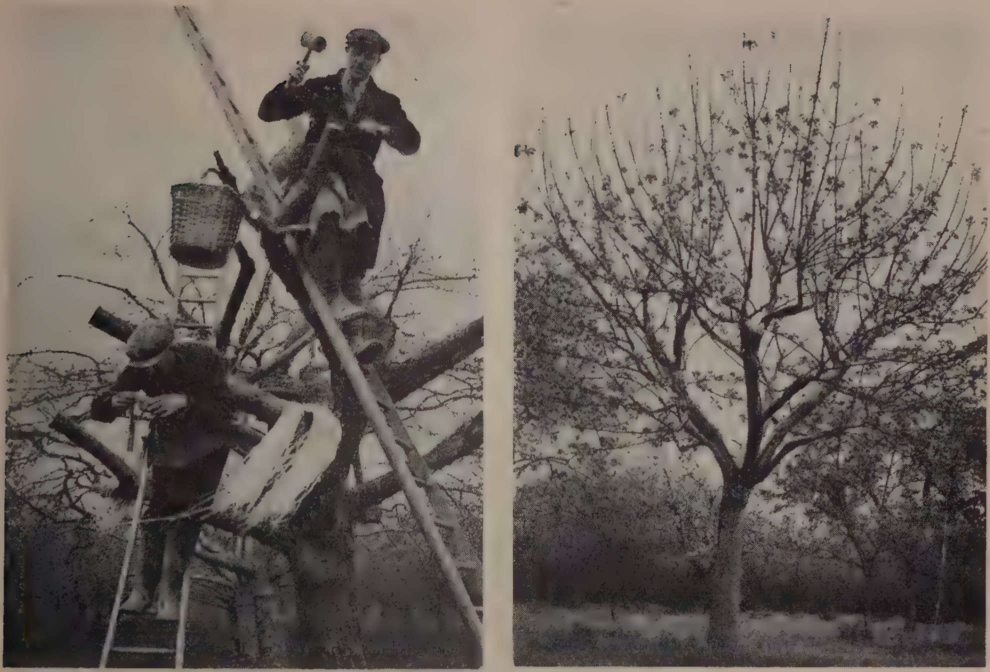
Among apples 'scab' is the worst of fungus pests. Before lime sulphur came into general use, after the last war, susceptible varieties of

(Left) *In this orchard of immense Bramleys overhead spraying is operated from a crow's-nest to supplement spraying from ground level.* (Right) *Heading back a 50-year old tree in autumn prior to grafting in spring*

apple—Cox in particular—were so devastated in wet seasons that not only was fruit stunted, black-spotted and unsaleable, but practically the whole of the season's new growth was attacked by the fungus and laid open to invasion by canker and brown rot. In addition, the scab infection was carried into the following year. Since the only remedy was to cut out all badly infected wood, regular cropping was an impossibility for buds could not develop over a period of years.

On many varieties of apples and pears, scab was so common that illustrations in the fruit books of the last century showed it as a normal addition to the complexion of the apple. Even the modern grower has been known to refer to scab as the 'National Mark', a suggestion much resented by officials of the Ministry of Agriculture who have presumed to include apples under their jurisdiction. Control of this scab trouble made it possible to produce large and regular crops of clean fruit in the choicer varieties at commercially economic prices. The increased supply of such rare and refreshing fruits stimulated a demand and was instrumental in switching over orchard production from a mass of indifferent varieties to a few good ones. Of late years thousands of acres of established apple trees have been headed back and grafted over to such apples as Cox, Laxton's Superb and Bramley's Seedling, while among pears Conference has replaced the head of many a pear of better name but inferior quality. Plums, too, have seen some change. The Yellow Egg plum remains a favourite, though the Purple Pershore, which came after, was at one time overplanted, and today, while Victoria is unrivalled where it is out of the frost, an American newcomer, Burbank's Giant Prune, has proved itself as frost-resistant as it is fool-proof and has evidently come to stay.

Other reasons than quality determine the need for a reduction in the number of varieties grown today. The distributor demands continuity of supply over a considerable period. This is natural, for the public, having seen, desired and succumbed to the charms of any



(Left) *Cleft grafters at work. The branch is split and a graft is inserted at each end of the split. These are then tied in with raffia and the exposed surface covered with grafting wax.* (Right) *Three years after grafting, and ready to crop*

particular variety, continue to want it, and an apple which is fit to eat for one or two weeks only is more of a nuisance than an asset. It is for this reason (assisted no doubt by advice from the importers) that the retailer favours imported fruit in peace-time conditions. He knows that by importing from different countries he can get pretty little apples from Italy weeks before our crop is fit and Rio Negro Pears from the Argentine at a time when England has little or nothing to offer. Oranges he can get all the year round while the banana is ever at his service. Plums and peaches glow in his window while snow and slush lie outside ; in short, seasons cease to affect the purveyor of fruits. So, to get his share of the market, small though it be, the home fruit-grower must provide continuity of supply. Either he must grow an apple or pear which will keep naturally or he must arrange for cold-storage or gas-storage to prolong artificially the life of his fruit.

Cold-storage has, during the past ten years, been superseded by 'gas-storage'. The term is really a misnomer. It should have been called 'self-storage', short for 'conditioned-air storage', which more accurately describes it. In practice the fruit is sealed into a chamber maintained at a temperature a few degrees above freezing point. The smell of the apples as they doze through the hours arises from thousands of boxes, each in oiled-paper wraps, and resolves itself into a concentration of carbon dioxide gas. The concentration rises and when it has reached a certain point—say 8 per cent in volume, which best suits Bramley's Seedling—the optimum conditions of apple sleep are achieved. Afterwards critical adjustments of air temperature and gas concentration prolong the ripening period of the fruit.

Even then the behaviour in storage of his precious fruit limits the grower's choice of varieties. Early apples such as the popular, red-cheeked Worcester Pearmain cannot be stored with later maturing varieties, although they themselves can be held from August till November. Cox's Orange Pippin is not improved by storage after the end of February, though Bramley's may be picked and

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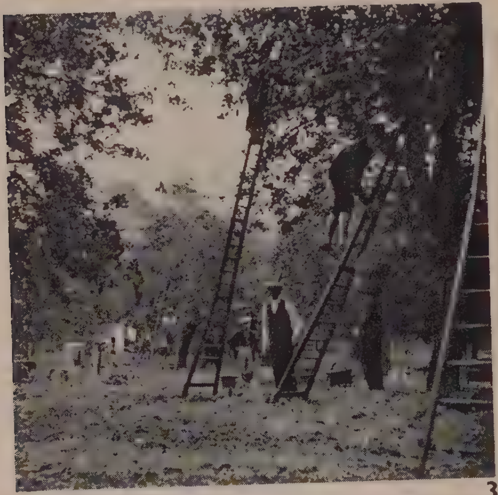
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1. A general tends his cordon apples. 2. A grower supports her crop with hop string. 3. Forty bushels, 1600 lbs. of fruit, is no uncommon crop for a tree of this size. 4. Sampling the cherry crop. 5. Glut! Low grade apples dumped, to be ploughed in later.

(Opposite) *Pruning pear trees at East Malling Research Station*

cooked in September and be served in almost identical condition ex-store nine months later.

As with apples so with pears. The old William's Bon Chrétien, and its descendant Laxton's Superb (with Beurré Superfin parentage), both early ripening varieties, start the season until Conference comes along, and this particular pear can be held a full nine months in gas storage—a remarkable feat in somnolence. That best of all pears, Doyenne du Comice, never in large enough supply to sell at a popular price, remains aloof, profitable to the few but a 'pain in the neck' to the majority.

It will be seen that quality, continuity of supply and storage possibilities are all concerned in reducing the choice of varieties and, one would imagine, in simplifying the grower's problems. Yet other problems arise and persist.

In every type of food production insects play a dominant part. It has been estimated that their diet would maintain in foodstuffs (growing and stored) another 200 million people. 'Eat More Fruit' is a slogan they have long observed. In his fight against insects, science is helping the fruit-grower quietly and persistently. Skilled entomologists investigate the life-history of each pest to find out the vulnerable period of grub or egg state, biochemists work out lethal doses and mycologists watch the ramifications of fungus diseases, all three combining to evolve suitable poisons, protectants and deterrents.

Probably the most spectacular achievement in a generation of fruit-growing was the discovery, in 1921, that tar-oil wash would kill the over-wintering eggs of two major pests: aphis and apple sucker. The presence of aphis ('greenfly' to the uninitiated) is widespread and it attacks many fruits, cultivated and wild. Having worked hard all the summer, it lays a batch of eggs in autumn which bridge the winter gap and, surviving the hardest frosts, emerge in spring to carry on their evil work.

For a time after the discovery or application of tar-oil washes, it was expected that increased production would be established on a regular and stable basis. Unfortunately under the searching lash of the new wash, friends perished as well as enemies. Hitherto insignificant pests, such as the red spiders, freed of the bugs which preyed upon them, increased to epidemic proportions. Orchards became sere and brown, and a new spray technique had to be evolved.

The elimination of the winter egg of the two major pests temporarily reduced the regular applications of cleansing summer washes of nicotine and soap, and, as a result, apple saw-fly became ferociously bad in various localities. Capsid bug, enemy of apples, and, in a lesser degree, of several small fruits, thrived and multiplied. Cambridgeshire knew its ravages, and in their effort to combat it growers in many districts cut back their tall trees to easier spray levels. The new wash did much but was no universal panacea, so back into use came the old friends: nicotine, reinforced with lime-sulphur, and with the soap replaced by one of the modern 'wetting-out agents' to prevent interaction in a multiple wash. The grower's programme of today may include a winter or spring wash of an oily nature (tar-oil is going out), two lime-sulphur washes before blossoming, with arsenate of lead added to one for good measure. A multiple wash of lime-sulphur, arsenate of lead and nicotine after petals have fallen, and, maybe, yet another lime sulphur and arsenate if the season be wet and the codling moth troublesome.

Science, however, has always something new to offer and the tendency today is to cut out the tar-oil, which kills only aphis and sucker eggs, and to rely upon a petroleum oil emulsion with which is incorporated a penetrant dye-stuff rejoicing in the name of dinitro-ortho-cresol, abbreviated by the fraternity to D.N.C. This particular combination is considered effective on the eggs not only of aphis and sucker but also of various winter moths, red spider and capsid bug.

The National Mark Scheme was not, as some said, founded to find employment for indigent officials! It was designed to help the fruit-grower by an insistence on the packing and grading of certain hard and soft fruits to fixed standards of size, quality and cleanliness, and its inception was a milestone in the upgrade of fruit-growing. The Ministry suggested that only by putting up a pack comparable to that of over-seas packers could the British grower of apples hope to create and maintain a proper demand for his fruit. This assumption was, however, based upon a fallacy; for the overseas grower, with thousands of miles between his orchard and his market, is compelled to pack graded fruit in substantial, standardized boxes in order to ensure arrival in sound condition. It is absurd to be obliged to follow such elaboration where fruit grown in the home counties is lorried to Covent Garden Market. Yet, where handling of the crop from orchard to store, and from store to wholesaler, is aided by mechanical grading, standardized packing has its advantages and growers willingly adopted it.

While less necessary for pears, plums and soft fruits, the Mark gave a guarantee of quality which was appreciated by both the retailer and the public. Except in glut years, when a proportion of the surplus goes to the pulp-merchant in bags or is ploughed under, the grower approved of it. With the advent of war and shortage of all packing materials the Mark has been abolished, prices have been fixed, and the grower has been insured against loss.

But English fruit production still labours under one grave disadvantage. Many fine orchards are too susceptible to spring frosts. Frosty Mays in 1935, 1938 and 1941 took a heavy toll from low-lying orchards. With constant supplies available from overseas the home market was unable to adapt itself to varying English crops, and, as a result, years of heavy cropping showed low returns to the grower while short supplies in frosty years failed to recompense him by sufficiently high prices.

Not only are markets upset by frosts in spring but the trees themselves develop bad habits. A serious loss of flower and consequent reduction of fruit means that a great deal of extra growth power is freed; as a result shoots and not fruits are formed. The year of rest may bring about an unduly heavy crop the following year, and this may reduce the next season's crop almost to vanishing point. This cropping in alternate years, or biennial bearing, is today recognized as natural to several varieties, notably Ellison's Orange, King Pippin and Laxton's Superb, and once established it is difficult to persuade the tree to resume regular habits.

	Year	Kent Orchard (Bushels)	W. Midland Orchard (Bushels)	Essex Orchard (Bushels)
G	1934	75,000	25,000	6,200
F	1935	10,000	600	2,800
G	1936	100,000	45,000	7,300
R	1937	15,000	18,700	7,100
F	1938	5,000	12,000	4,400

F = Frost. G = Glut. R = Rest year after glut.

The only real remedy for such annual variations in the weight of our fruit crops is to ensure that all future large-scale plantings are on sites above the local frost line. Although orchard heating by burning fuel oil must always remain a valuable method of protection, it is necessary in this country only, where orchards are badly placed. The decision as to safety or liability is today no more than a surveyor's job, once he has realised the development and downhill movement of chilled air on a night of radiation frost. Should any doubt exist in the mind of the reader as to the effect of frosty years on fruit production, the above figures, showing crops recorded on a Kent and a West Midland fruit farm (both subject to frost damage), as compared with the crop of a so-called 'frost-free' orchard in Essex should dispel it.

(In regard to the figures for the total home crop it is only fair to state that Ministerial statistics do not distinguish between edible and cookable fruit and the cider crop. The best they can do is to suggest that the cider crop may be considered as about 25 per cent of the total. Their figures must therefore be read with this limitation in mind.)

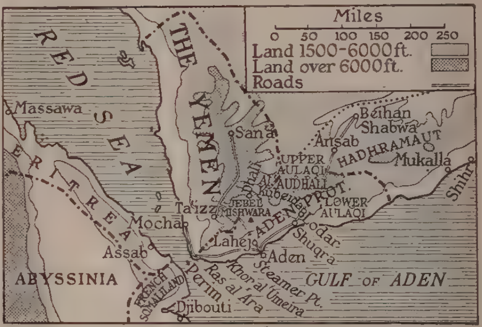
What will be the prospects of fruit-growing after the war? There is no doubt that the demand for home-produced fruit will be enormous for many years to come, but prices are certain to be restricted. Shipping space is bound to be limited for such luxurious necessities as fruit, and devastated Europe and the East may have prior claims. No attempt has been made by our Government to encourage the raising of fruit trees by the nurseryman; indeed many thousands of pounds worth of irreplaceable stocks for fruit trees were burned at the beginning of the war. Since then the permissible acreages allowed for nursery stock have been ruthlessly cut down, and fruit-growers have been restricted in all new plantings. But when we have peace again it is reasonable to suppose that home fruit-growing will be encouraged.

A fruit stall in a county town in November 1939. Not a single fruit is English-grown

The Mountain Tribes of the Yemen

by R. B. SERJEANT

Since the war entered the Indian Ocean, the Arab world has been menaced by hostilities from the East as well as the West. One of the most important centres of that world is Aden, a nerve point of the British Empire much coveted by the Axis. Dr Serjeant, who described the dhow-makers of its coast in our April number, now takes us inland into the rich, mountainous territory of the independent Yemen



Stanford, London

THE earliest contacts of Europeans with south-west Arabia were with the dwellers in the coastal region who live by fishing, or by breeding animals, eked out with a little flood-cultivation. For their plains are too dry to grow much except grain and *qasab*, a tall cane-grass used for feeding camels. These coastal fish-eaters were known to the anonymous author of the Periplus of the Erythraean Sea in the first century A.D. On the inland side of the great Yemen mountains which separate them from the sea are the beduin who live on the fringes of the Empty Quarter. But the mountain tribes of the Yemen, between the narrow strip of coastal plain and the great desert, are most characteristic of southern Arabia—an ancient people whose civilization had associations with Babylonia, Egypt, the Hellenistic world and India.

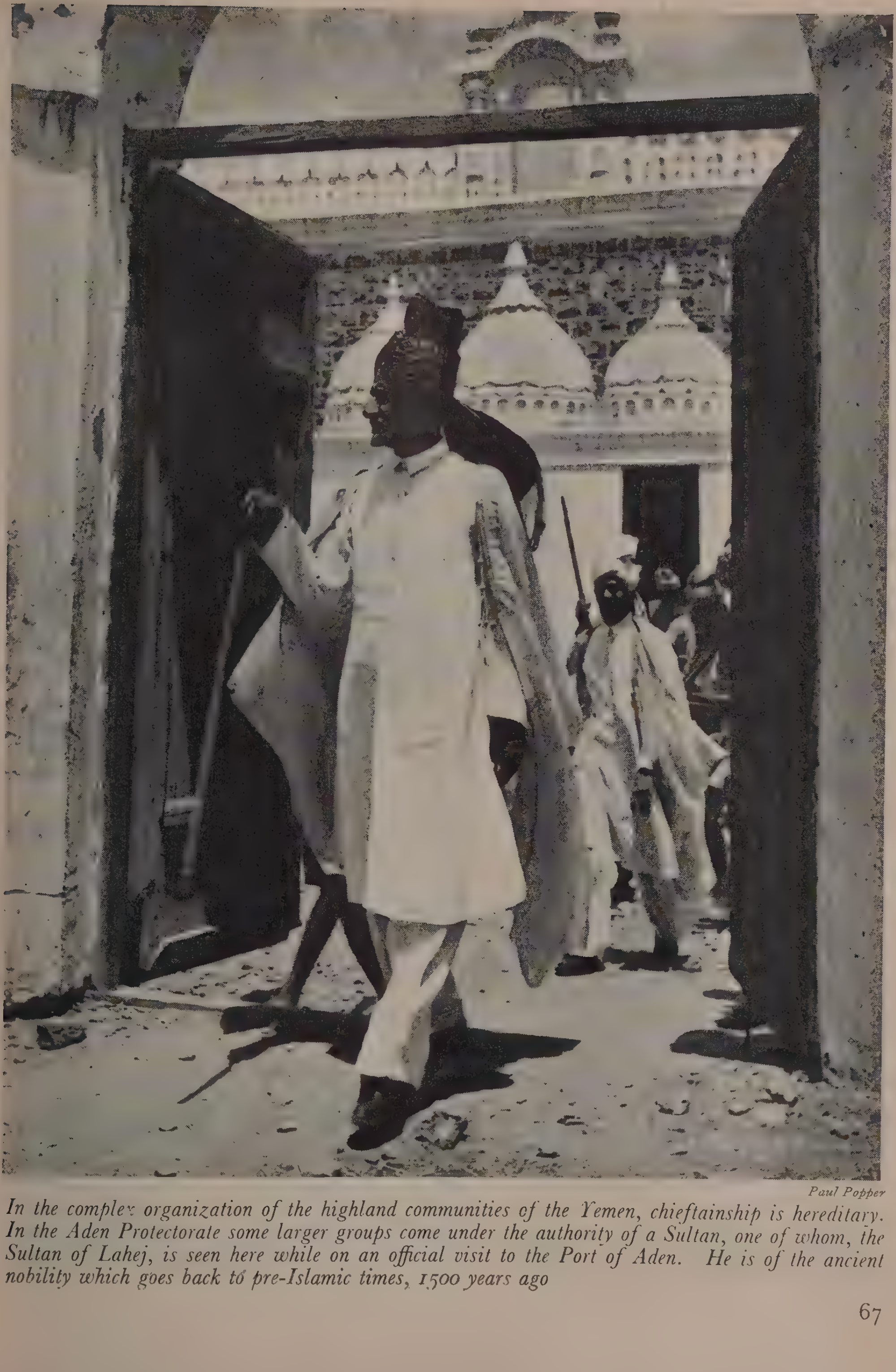
It is wrong to think of southern Arabia as a wild empty desert like the steppes of Nejd, or the sandy wastes of the African Sahara. It is a land of great mountains, cut by many valleys; sometimes these are narrow fierce gorges, sometimes wide-open and pleasant. They are the roads of the country when dry, and the irrigation system when in flood. Nor are the people migratory as in northern Arabia, for they live in villages.

In some places the valleys lend themselves to cultivation and fields are made out of the flat ground in the wadi. The *sail* or flood rushes down the river-beds after rain, and is led into the fields by irrigation channels branching off from the main stream. The floodwater is retained in the fields by banks of clay known as *'ubar*, made by heaping up the earth with a wooden board used as a scraper, drawn by a yoke of oxen. The water sinks into the fields and, over years, salt accumulates there.

When making the 'ubar the peasant sings tribal ditties or *zamils* to his oxen to encourage them. The right-hand beast is always reckoned the leader.

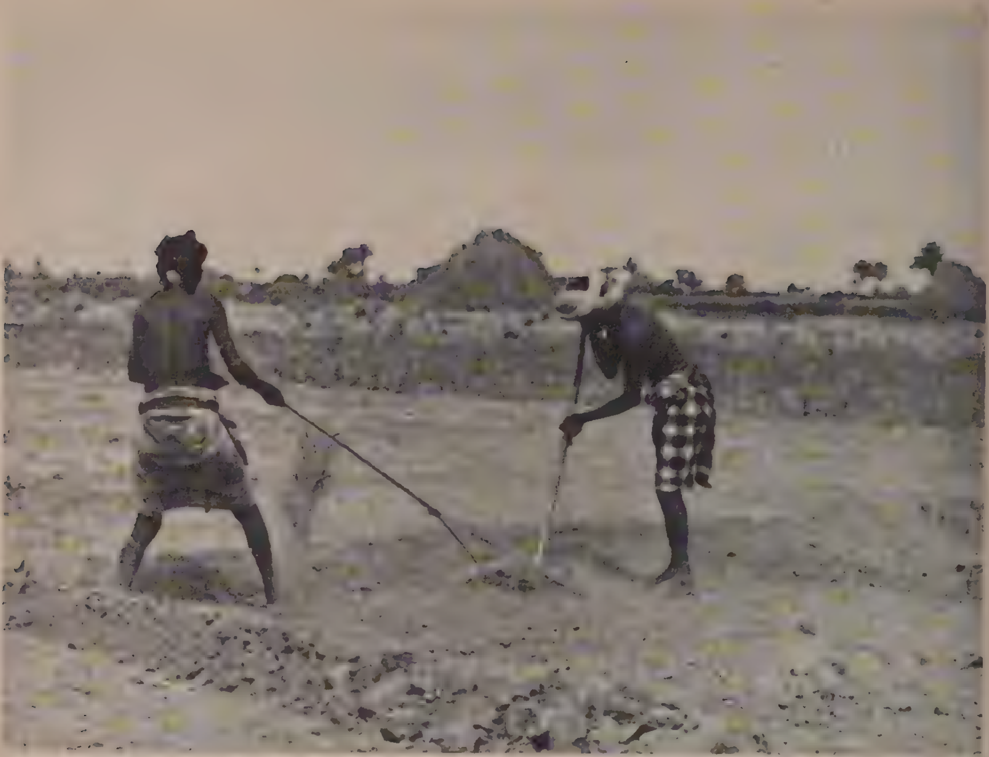
At the arrival of the flood the peasant leaves his shelter and goes off armed with a mattock to divert water from the main channel into his fields. Now this water is divided among the various villages of the wadi, and between the households in each village, according to the number of fields to be irrigated. The flow is regulated into each field by removing or replacing the barrier of branches at the entrance of the sub-channel. As a rule there are several conflicting opinions about the quantity of water each household is allowed, for judgment was made in the past by sheikhs or chiefs; so every flood is the signal for a free fight.

The other and commoner type of cultivation is the terrace system which is suggested to the mountaineers by the naturally stepped contours of their hills. In the 'Awdhali plateau much of the irrigation is from wells, when a camel walks up and down an incline



Paul Popper

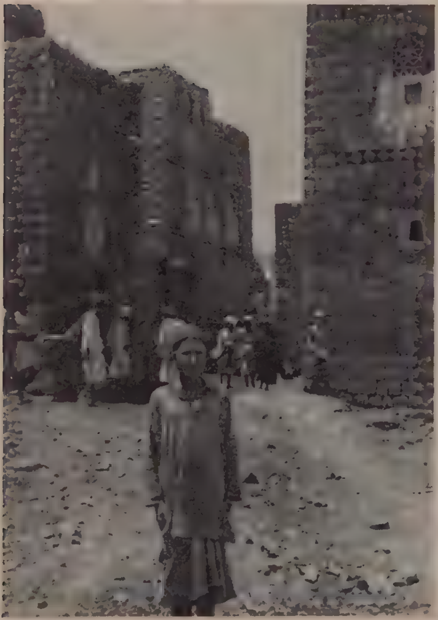
In the complex organization of the highland communities of the Yemen, chieftainship is hereditary. In the Aden Protectorate some larger groups come under the authority of a Sultan, one of whom, the Sultan of Lahej, is seen here while on an official visit to the Port of Aden. He is of the ancient nobility which goes back to pre-Islamic times, 1500 years ago



Norman Lewis

(Above) *Only by hard and continuous labour is it possible to cultivate the dry plains of the Yemen: these Yemeni are scratching the surface of the soil with their improvised tools before planting a crop of vegetables.* (Left) *The Jewish Quarter in Dhali. Note the decoration of the houses and the stone lattice-work in the windows. The Jewish boy in front has side-curls known as* zunnar, *and wears a silver amulet hung round his neck.* (Below) *The mountain village on Jebel Mishwara. The thornbush on the left keeps enemies out, and animals from straying*

R. B. Serjeant



R. B. Serjeant

to draw the bucket up and let it down again. The water is then emptied into a raised channel of clay and can be diverted into the appropriate field at will.

Villages are built on the mountains alongside the valley. The village shown in the illustration opposite is built on the very top of a 3000-foot peak, Jebel Mishwara. The houses are like the most romantic of castles set on tall pinnacled heights over the narrow wadi-bed. In the less frequented valleys you may come upon a herd of baboons moving across the hillside barking at one another; they are much disliked as they make raids on the crops.

The organization of these highland communities, which are independent and difficult to control, is most complex. The tribe is subdivided into branches (*fakhidah*), numbering perhaps a hundred rifles, perhaps fifteen. Sometimes several tribes form a confederation bound loosely together under a paramount chief who has a greater or lesser degree of authority. Chieftainship is hereditary. In the Aden Protectorate larger groups are sometimes under the authority of a Sultan or an Amir. These Sultans are of the ancient nobility which often goes back to pre-Islamic times, some 1500 years ago, and generally reside in a central market town. Such are the Sultans of the ʿAwdhalis, the ʿAwlaqis, the Fadhlis of Shuqra, and of course the ʿAbdali Sultan of Lahej near Aden. Tribal law is extensive and involved, with fixed penalties for every offence or transgression on a neighbour's rights. Relations between the tribesmen and the Sultans are also defined by custom. Cases involving tribal law are heard by the Sultan or his representative, or in tribal confederations, by the sheikhs. This tribal law, which is generally unwritten, consists of traditional judgments and penalties. I was fortunate enough to secure a copy of the traditional law of the ʿAwdhalis when in Qubaidhah, but this was one of the rare instances when the law had been written.

In most cases the actual authority of the Sultan extends little further than a certain radius around his residence. He taxes the people where he can, often disproportionately to their little wealth, and maintains a number of soldiers, irregular and often hereditary *ʿaskars*, as they are called, who hold a certain amount of land rent-free, and receive allowances in kind—perhaps corn or an annual gift of cloth—though their pay is more often than not in arrears. The soldiers wear no uniform apart from the indigo-dyed *futahs* (kilts) and turban and a coating of indigo over the body which is supposed to keep out the cold, but their rifles are supplied by the Sultans and so many rounds of ammunition per annum. They have no military training except where partially controlled by Aden.

The same system obtains in the independent Arab state of the Yemen, except that, instead of petty Sultans, there are governors of districts owing allegiance, at least in theory, to the Imam. Taxation in the Yemen is perhaps more irksome on the peasant than in the Aden Protectorate and a 10 per cent tax is exacted from every Yemeni bringing back money to his native village. In the interior of this part of Arabia enterprise is only too often stamped out by the Sultans who crush all attempts at betterment, or new concerns, by uneconomic taxation. It is to this that we must attribute the decay of trade and agriculture in Arab countries such as Palestine and Iraq and not to lack of initiative on the part of the Arab himself. One has only to see the great terrace systems of the Yemen to be assured of the potentiality of Arab enterprise.

Most towns of any size have a market on a fixed day of the week, often a Thursday (*Suq al-Khamis*), when those who wish to buy or sell flock to the little town. The country people bring grain, fruit and vegetables, sheep, goats and cattle, and the beautiful woollen carpet-strips woven by the women. The Sultan usually has a market tax of 10 per cent on sales. Here the countryman can buy Japanese enamel-ware, German lamps, Turkish or Indian matches, kerosene, old beer bottles from the messes in Aden, etc. Cotton futahs from Japan, or the fine Javanese sarongs which may have been imported as early as A.D. 1500 are displayed along with local weaves. It is a curious thing that these Japanese futahs are made in a number of different patterns, of which certain kinds seem to be preferred by individual tribes, though there seems to be no fixed rule.

From the East Indies come tea and the spices, ginger and cardamom. Tea is the more honourable drink, though coffee-husk ground and infused with ginger is drunk the more commonly. The peasant can buy the

Norman Lewis

(Left) *Tribesman from the coastal region of the Yemen.* (Right) *Yemen beduin, with eyelids darkened with antimony powder* (*kohl*)

qat-leaf too, grown in the fields and terraces of the Yemen and taxed by the Imam or sultans. Consumption of qat is nearly as common a vice among these mountaineers as is tobacco smoking in Europe. The drug stimulates the addict to great physical activity, but the after effects are depression, sleeplessness and constipation.

To the great disgust of our servants at Aden, the Imam of the Yemen stopped the sale of qat outside that country, by way of retaliation for our blockade on kerosene which the Yemenis were selling to the Italians. Native tobacco, and American, can be had in the market; the former is of two types, Hamumi and Surrat, and comes from the Hadhramaut.

For his women-folk the Arab can buy cosmetics and cheap, pretty Indian silks, or, for a fine turban for himself, Syrian silk from Aleppo. The women in places more accessible from the coast always seem to wear a loose gown of this striped Indian silk, but in the remoter parts they wear a long blue gown dyed with indigo. Cosmetics are often mentioned by the ancient Arab poets—one sickly yellow variety gives the girls' faces a bilious look.

On sale in most villages are the local manufactures of pottery, either red earthenware or green and brown glazed pieces, and the wooden bowls made by the hereditary carpenter tribe, the Banu ʿAwd. Iron is worked at Ansab in the ʿAwlaqi country, whence the famous daggers come. Blacksmiths in that town are said to be so skilful that they can repair any part of a rifle.

Jewish communities are settled in towns where they have been for hundreds of years. Most of the Jews I saw were silversmiths, although they are said to tan leather and make wine from the grapes so abundant in the Yemen. It is unlawful for a Moslem to make wine, though he will not always have the same scruples about drinking it. I am told that the Imam of the Yemen has made stringent laws

Norman Lewis

(Left) *A Jew and* (right) *a Jewess belonging to one of the Jewish communities which have been settled in the towns of the Yemen for centuries*

against wine-bibbing by Moslems, but that the Arabs still buy wine by stealth in the Jewish quarter. The silversmiths make silver ornaments for women, dagger-scabbards, amulet-cases, and the silver bands with which rifles are ornamented. I have spoken to these Jews and surprised them by reading the Hebrew on the silver amulet suspended around the neck by an iron collar, which often have the formula, "Shaddai. Hear Israel, Yahweh our God is one, the presence of Adonai Sabaoth be with us." Some superstition seems to centre round the secrecy of the Hebrew character, for a Jew whose amulet I was transcribing and reading was pestered by another not to reveal the secret, as he thought. Similarly the Arab will not allow a non-Moslem to touch a copy of the Koran, although he will allow you to read it without holding it.

In the illustrations on page 68 the curious stonework of the Jewish houses in Dhaliʿ can be seen, though it is not peculiar to the Jews alone. The windows have a stone lattice-work screen and there are decorated string-courses of lozenge-shaped stones in the walls. All these motives appear on Jewish silverware (perhaps by a coincidence, this same stone pattern is to be seen in the ruins of the mysterious African city of Zimbabwe). The roofs are drained by wooden gutters which shoot the water out into the street, for at Dhaliʿ, three thousand feet above sea-level, rain is not infrequent. A line of white plaster (*gypsum*) down the side of a building indicates an inside latrine which is allowed to drip into the street in the careless fashion of medieval Europe. Sometimes in the top of the door-jamb there are holes to admit of a rifle being fired down on to the foe who would enter.

Few Arabs are religiously bigoted or fanatical, except where they have been in close contact with sects inimical to their own; so nobody minds if you visit the shrines of the saints, even if you are a Christian. They are, however, very much attached to their faith and the majority of villages have such a shrine. It is, as a rule, square, with a squinch dome, and the tomb in the centre is covered with an oblong wooden case protected by a silken cover, the best the shrine funds can afford. At the annual festival of the saint (the *Wali*), a new cover replaces the old, which is torn into strips and distributed among pilgrims. They tie it to some part of their person or clothing and it assures them of saintly protection. On the saint's day, too, the banner of the wali is brought out, the top ornamented with metal crescents, reminding one that the ancient South Arabians worshipped the moon. A procession is made around the sacred precincts. Oxen are sacrificed in front of the door to the shrine, and a feast is made. Some saints have salutes fired in their honour.

Most shrines have a hereditary keeper (*mansab*), usually the descendant of the saint himself, and there are numbers of *khadims*, hereditary attendants whose duties are precisely those of the Levites in Israel. Lands in the village are set aside as an endowment of the shrine and a tithe taken, though the Wali has the duty of entertaining the stranger. To the attendants of the shrine strange powers are attributed; the khadims go into trances, and are said to have the gift of telepathy and second-sight. The saiyids or descendants of the Prophet, one of whose ancestors may be the local saint, and his direct descendant the mansab, are held in great respect. By right of birth and disinterestedness, they frequently intervene in tribal disputes to mediate for peace. Around the shrines is sacred territory where the murderer, avenger of a blood feud, or even the common felon, may take refuge from his pursuers.

Community village life is characteristic of the Yemen highlands, for in a land of perpetual war no family would care to live in a house away from the others. The towns are merely larger villages around which craftsmen and others have settled. There is also a depressed class of aborigines, African or Dravidian in type, who perform the menial duty of sweepers; they are 'untouchables' though they pray with Moslems in the mosques. There are still slaves in the Hadhramaut, but, unlike the sweeper class, they are not untouchables. The Arabian attitude toward the slave is not unkind: the slave has certain customary rights, and is better fed and clothed than many who are free.

These mountaineers hardly resemble the Arab of popular imagination, nor do they wear headbands and flowing robes. The Yemenite Arabs are usually of slight stature, dark-skinned and beardless, though there are so many types that it is impossible to generalize. They are a charming people, and civilized. Their condition would be much improved had they lasting peace and good government, though the complete opening-up of the country to outside influence and commerce would spell disaster for an economic system which has worked with success for two or three thousand years. To an ever-increasing degree the Protectorate and South Yemen have become economically dependent on the port of Aden. Labour is drawn from the up-country villages. The villager will go to Aden and earn £1 : 10 : 6 a month at coolie work, live on 7s. 6d. out of that sum, and save the rest to return to his village. There he will remain until necessity drives him to earn more. A large proportion of the inhabitants of Aden must be composed of these floating elements of population.

Internally the motor-lorry has made communications between the towns much easier; the aeroplane, too, has made a difference to the Protectorate and is a familiar sight in some places. It is now possible to control areas with a handful of planes where formerly thousands of ground troops were necessary to penetrate.

R. B. Serjeant

The Turkish mosque in San'a, capital of the Yemen

Invasion Threatened Britain

III. The Prince of Orange Succeeds

by EDWARD B. POWLEY, late R.N.

Mr Powley is well known as a naval historian and his book The English Navy in the Revolution of 1688, *to which the late Lord Jellicoe wrote a foreword, is the standard authority on its subject. Previous articles in this series—the first on Napoleon's schemes and the second on the Jacobite Risings—appeared in October and March last*

The closing years of Charles II's reign witnessed a determined attempt to exclude the King's Roman Catholic brother, James, Duke of York, from the English throne. None the less, the duke, in February 1685, succeeded, with unexpected ease, as James II, and soon took a series of steps which left few Englishmen in doubt that he intended the total destruction of Parliament and Protestantism.

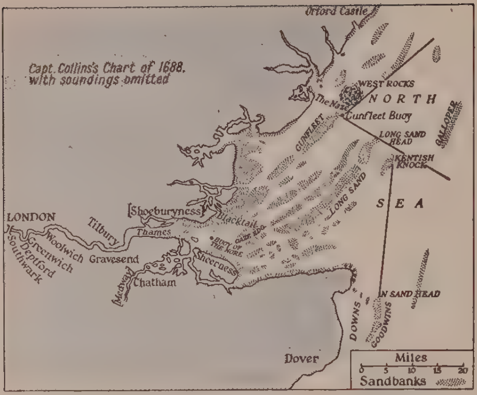
As long as the King had no son and folk could console themselves with the thought that Mary, his Protestant daughter, married to the Protestant William of Orange, would be her father's successor, national rebellion hung fire; but, in the spring of 1688, whisperings went round that the Queen, popularly supposed to be past the age of childbearing, was pregnant! Excitement increased. On June 10 a prince was indeed born; and, just under three weeks later, upon the memorable night on which a bench of partly subservient judges and a 'packed' jury acquitted the 'Seven Bishops' (whom, for refusal to read a declaration involving the indulgence of Roman Catholic worship, the King had thrown into the Tower), an invitation to intervention, signed by seven representative Englishmen, was sent to William, Prince of Orange. It was carried by Arthur Herbert, an English admiral disguised as a common sailor.

If you had purchased a copy of the *London Gazette* on June 18, 1688, you might have read: "Sir Roger Strickland, Rear Admiral of England, rides present admiral in the Downs of a squadron of more than 20 nimble Friggots and Fireships well appointed and daily expected to be joined by others, of yet greater force, from the river of Thames".

The King, who was also Lord High Admiral, visited his fleet, increased its numbers and, in July, ordered his admiral to base himself on the Downs, thence sending out scouts regularly as far north as Orfordness in Suffolk. Should the Dutch appear, Strickland was expected to put to sea, interpose himself between the Dutch and their shore and fall upon them.

The admiral communicated these instructions to his most experienced captains and they strongly advised the Gunfleet, a stretch of water just south of the Naze, in Essex, as an alternative. Suppose, they argued, their admiral should stay in the Downs, and William's armament put north? It might be a whole week before their admiral heard of the movement and he would be quite unable to overhaul the expedition. At the Gunfleet, since it was right opposite the Dutch coast, news could be gathered daily.

This opinion Strickland transmitted to the King-Lord High Admiral, who was much concerned at it. He held a council at Windsor on Sunday, August 26, at which Lord Dartmouth, and that "most expert gentleman Mr Samuel Pepys, Secretary of the Admiralty", the King-Lord High Admiral's right-hand man, were accompanied by Sir John Berry, one of the Principal Officers of the Navy Board, the department of Admiralty which looked after the building and maintenance of the ships, and by three Elder Brethren of the Trinity House, the organization which, since the days of Henry VIII, had supervised the lighting of the coast. It was a very solemn debate and it reached a clear-cut conclusion. The King-Lord High Admiral immediately sent new orders to Strickland to take station neither in the Downs nor Gunfleet but midway between the Longsand



Stanford, London

Head and the Kentish Knock—roughly as far out to sea east of Shoeburyness as the distance between Shoeburyness and London. Strickland was to be allowed to seek shelter in the Downs or even in Boulogne Bay "if it should over blow".

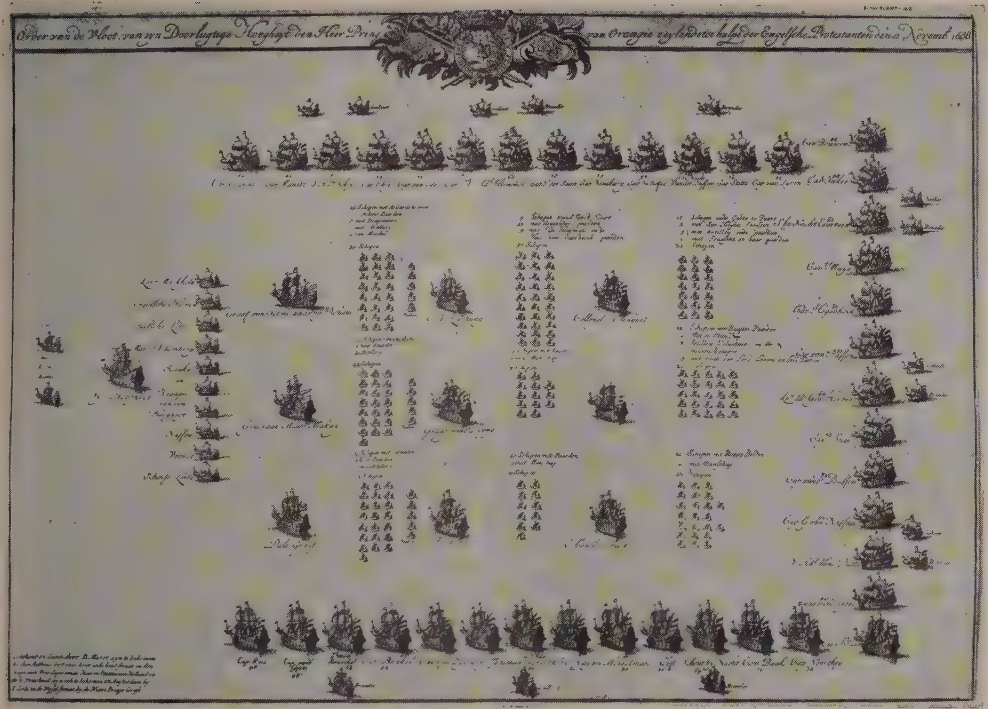
No one will fail to appreciate that the captains were justified in arguing that the Gunfleet provided a better post at which to collect advices of enemy movement. There the advantage ended. A look at the map showing the main, finger-like sandbanks that lie all along the Thames estuary, should help the layman to credit the statement that, were a fleet at anchor outside the Gunfleet Sand, say in Lat. 51° 48′ N., Long. 1° 22′ E., it would, with a strong east wind aiding the flood tide—the set of which thereabouts is south-west and therefore straight into the mouth of the estuary—labour in considerable danger of dragging anchor and being swept back into the retracting funnel of the estuary, wherein it would, at worst, risk blockade and from which, at best, it might be liable to considerable delay in tiding. Moreover, any sailor of that day would know that, with the wind in the east and the tide at flood, a fleet could not work out from the Gunfleet into the North Sea *in any direction*. Admittedly, on the new cruising ground between the Kentish Knock and the Longsand Head, say in Lat. 51° 48′ N. and Long. 1° 22′ E., an admiral would need to be wary lest he should be taken by surprise and driven into a trap behind the Goodwins. Once, in 1639, the Downs had been made a snare for an English admiral. And it must be conceded that, from the new station, as from the Gunfleet, it would, against both east wind and flood, prove difficult to put to sea in order to initiate a northerly pursuit. But at the new rendezvous there *need* be no entanglement among sands; and, whatever the state of wind and tide, the fleet could at least stand thence to sea.

All this while, through most of June, throughout July and August, the preparations of William had proceeded stealthily. Yet one consideration troubled the mind of that prince. The hostility of his powerful neighbour Louis XIV of France was undisguised; and it was in the highest degree unlikely that the States-General—the Dutch equivalent of Parliament—would allow their ruler to sail on a hazardous expedition to aid English Protestants (incidentally, bitter trade rivals) so long as the armies of the *Grand Monarque* threatened the southern frontier of Holland.

By his ambassador, James protested that the naval preparations of William were cause of grave disquiet to England; Louis went further and overweeningly declared that he, Louis, considered himself the 'protector' of the King of England and could not suffer the activity to develop. A twofold blunder! The States-General, thus insulted, were more ready than before to further their Prince's design; and James was annoyed to the point of flatly refusing the naval aid Louis had several times offered.

Many things in history will never be explained. It is far from clear why, in the early autumn of 1688, Louis, who had long threatened the United Provinces, suddenly went to war on the Middle Rhine and, through that commitment, set free the Provinces from danger of immediate attack. By the end of September, William's expedition was practically ready to sail.

During the last week of August and the first three of September, Strickland remained at sea, presumably on the ordered station. A great historian, Macaulay, has remarked that, during the summer months of 1688, James lived in a state of "stupid security". Has it not here been shown that nothing is further from the truth?


Order van de Vloot van syn Doorlugtige Hoogheyt den Heer Prins van Orangie zeylende ten hulpe der Engelsche Protestanten den 11 Novemb 1688

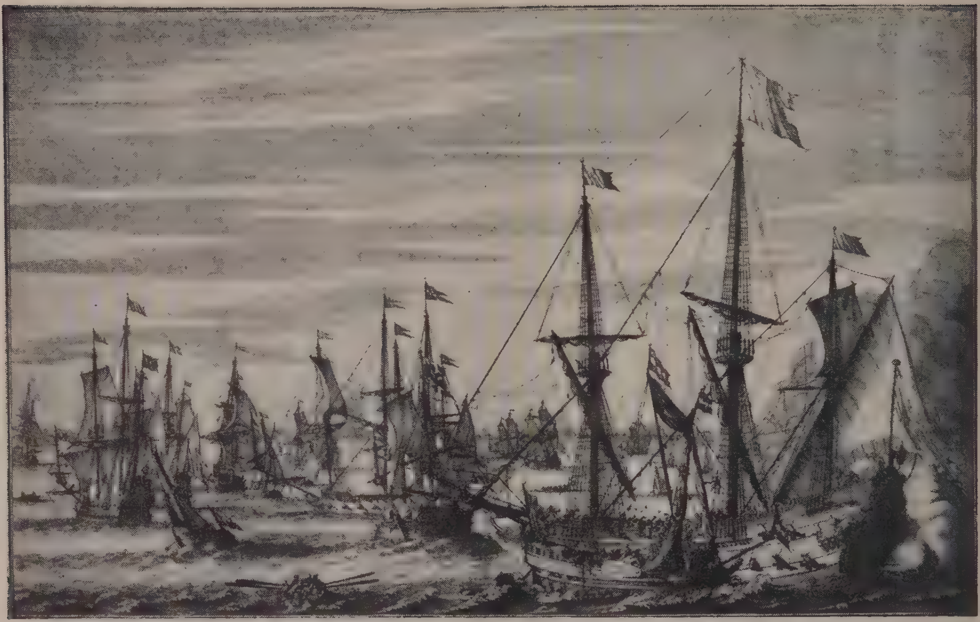
All prints by courtesy of the Bodleian Library

A contemporary Dutch artist's—scarcely a seaman's!—interpretation of the "Order of the Fleet of His Serene Highness, the Lord Prince of Orange, sailing to the help of the English Protestants, 11th [i.e. 1st] November, 1688"

Yet, for all his past naval career, which indeed had been distinguished, Strickland could not be left in charge of the fleet. He is said to have heard mass in his cabin and ordered its celebration on the quarter-deck. However much the Catholic King of England might sympathize with that sort of thing, he dared not risk insubordination in his fleet. Therefore, on September 24, he appointed George Legge, first baron Dartmouth, aged forty, to supreme command.

Dartmouth was a Protestant but utterly loyal to James. He had fought in the Dutch wars, held the governorship of Portsmouth, had conducted the evacuation of Tangier and was, at this time, Master of the Ordnance. The admiral's instructions, dated October 1, 1688, bore the royal signature, *James R.*, at the top left-hand corner. They enjoined Dartmouth take command of vessels fitting out in the rivers of Thames and Medway and at Portsmouth. The fleet under the flag of vice-admiral Strickland was to come in; and all should meet at the Buoy of the Nore.

Dartmouth, his "Loyalty, Valour, Circumspection and Experience" invoked, was left to his own devices to deal with the threat of invasion. He was required to report his actions to the King-Lord High Admiral through Mr Samuel Pepys. Pepys's signature appeared at the bottom right-hand corner of the document. Attached to the instructions was a named list of the fleet of which Dartmouth was expected to take control—26 vessels already fitted out, 35 to be added, 61 in all. Twelve were third rates (two-deckers of up to 1000 tons), 25 fourth rates (half the third-rate size), 18 fireships



(Above) *A much reduced reproduction of a contemporary Dutch engraving, which presents some of the ships actually used by the Prince of Orange at his invasion. The large two-decker in the forefront is especially worth study.* (Opposite) *A purely imaginative drawing by a Dutchman of William's landing at Brixham*

(precursors of the torpedo boat), 3 sixth rates and 3 yachts. The season of the year forbade the use of the large three-decked first and second rates.

But why—the question is inescapable—should the King-Lord High Admiral, after his earlier insistence that Strickland must keep beyond the sands, bring his ships off the advanced station, leaving but two frigates to cruise between Orfordness and the Downs to pick up intelligence? Surely prudence dictated that Dartmouth should gather his reinforcements and take them to the advanced cruising ground? The plain truth is that James wanted Dartmouth in two places at once, to watch the Dutch from outside the sands and to hasten equipment, at the Buoy of the Nore, of a still more powerful force. So James took the heavy risk that, for a few days, the Dutch blow would not fall or, if it did, that the scouts would warn Dartmouth early enough for him to avoid blockade. It took Dartmouth three weeks to rig, gun, store and man his command; and not three weeks, but four, had elapsed ere he cleared the sands and reached—the *Gunfleet*! With him were about 50, not 61, ships. As admiral, he wore the 'Union' at the main of the *Resolution* and his division carried a red flag on the ensign staff; Strickland, now vice-admiral, flew the 'Union' from the foretop of the *Mary*, a white division flag on the staff; and Berry, as rear-admiral, hoisted his 'Union' at the mizzen of the *Elizabeth*, his division flag being blue.

Dartmouth was not at the Gunfleet with the King's approval; but the King did understand that his admiral was there through conviction and for the purpose of putting into action a strategy which consisted in going upon the enemy coast in winds likely to bring them out (a move in which he anticipated Hawke) or, if that were not possible, to wait,

preparedly, the attack which the enemy fleet would be likely to make upon the English fleet in order to obtain command of the sea before the transports were brought out.

A letter of October 24 expressed Dartmouth's satisfaction: "Sir we are now at sea before the Dutch after all their boasting". Of the dramatic irony of that sentence its writer was utterly unaware. Between the 19th September, a Friday, and the 22nd, a Monday, William's armament *had both sailed and been blown back to its harbours*. What would have happened had the east wind on which it sailed not swung round on the Friday evening to the west? What would have been the fate of Dartmouth caught far in the narrowing of the estuary at the Oaze Edge or Blacktail or Buoy of the Nore?

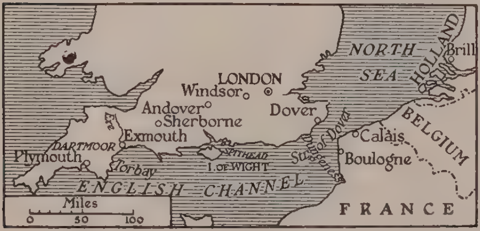
So far no mention has been made of a factor which was to play a part greater than that of winds or tides in the fate of James and England. Dartmouth already knew, and had told the King, that certain of his officers were less zealous for James's cause than he could wish; he may or may not have known that a letter from Herbert, inviting cooperation, was, at that time, circulating in the fleet. 'Caballing' was certainly rife. The 'fifth-column' captains always spoke, at councils-of-war, for the Gunfleet rendezvous.

Dartmouth had been a week at the Gunfleet when, on Tuesday, October 30, he decided to put to sea, against a south-east wind but on the ebb tide, "to look for them". He hoped, before night, to get clear of the Galloper Sand which lies well out beyond the estuary, a thin strip north and south in the North Sea. But he did not succeed; the wind changed and, next day, Wednesday, October 31, he was back tossing near the north-east exit from the Gunfleet. Through November 1 and 2, the Thursday and Friday, his position was unaltered; and there he was on the morning of Saturday the 3rd, when his frigates sighted William's armament.

On paper that armament consisted of 49 ships of war and 10 fireships and at least 200 transports. The command had passed to 'lieutenant-admiral-general' Herbert on October 17. His flag was flown at the main of the 62-gun *Leyden*, lieutenant-admirals Evertsen, in the *Cortgene*, and Van Almonde, in the *Provincie van Utrecht*, commanded squadrons. The Prince, accompanied by two admirals, Russell, and Burnet afterwards historian and bishop of Salisbury, was accommodated in the frigate *den Brill*. Contemporary engravings purport to reveal the exact way in which the transports and squadrons were disposed. One such picture is here reproduced; but the formation it indicates was never picked up—let alone followed.

It is not for a moment to be supposed that Herbert was pleased with the naval side of William's plans. He was too good an admiral not to have wished to leave his transports behind and, by first blockading or beating Dartmouth's fleet, win command of the sea before attempting to exercise it. No—the joint sailing of fleet and convoy was dictated to him by William, who required him not to fight but to evade the English force. In fact, William's armament had left the Brill, on its 'Protestant wind', at ten of the morning of Thursday, November 1, and had headed north intending a landfall in Yorkshire—at Bridlington Bay! Blown from course, it was now off the Thames intent on evasion of the English and a disembarkation somewhere on the south coast.

> Before noon, 'half seas over', the new Armada was entering the Dover Strait, gazed at by concourses of the people on the opposite shores. The disposition of the ships was altered to make the spectacle as imposing as might be; the vessels to the convoy reached within a league of either shore, the fleet carefully protecting them. The Prince led the van. His flag was English colours; the motto impaled thereon was, 'The Protestant Religion and liberties of England'; and underneath, instead of 'Dieu et Mon droit', 'Je maintiendrai'. . . . Guns saluted Calais and Dover and there was made a goodly display. For three hours or so 'tunes' were played on the trumpets and drums. With oncoming night the ships entered the Channel.



Stanford, London

The story of that black Saturday in the English fleet is perhaps best told in the words of captain Collins, the English admiral's 'master' or navigating officer and a famous hydrographer: (his chart is incorporated in the map on page 74).

> At daylight we espied several ships to windward, close-hauled under their low sails, but immediately heaved out their top sails. Our windward ships [these were the frigates] let slip and stood after them to the southward. We discovered 13 sail of them. We had weighed with the whole fleet after them, but the ebb tide being almost spent, we could not weather the Longsand Head and the Kentish Knock.

So—the Gunfleet anchorage had proved the undoing of the English fleet.

James did not blame his admiral then or later. Pepys was sympathetic, but his later judgment hardened.

> What a pother was heretofore made about ye pretended Discovery of our Sands, etc., to Strangers. While it now appears how little Use wee were able to make of our supposed only knowledge of them ourselves, at soe Criticall a Juncture as that was when my Lord Darto could not tell how to gett his Fleet out of them, tho there by his own choice; and after all ye Cautions given him by ye King against ye very Evil hee betrayed himselfe and his Unhappy Master to by going thither.

At dawn on Sunday, November 4, William's fleet was off the Wight and the Prince informed Herbert that, by the advice of his pilots, he intended landing at Torbay. Herbert preferred Exmouth; but the Prince kept his decision.

At 4 A.M. on Sunday the English fleet weighed, at 8 A.M. got under sail, at 8 P.M. was off Dover, at midnight beyond Dungeness.

Monday, November 5, opened with threat of disaster to the invaders; for daylight revealed to those on the leading vessel that the pilot had overshot the marks of Torbay.

Russell cursed the pilot and told Burnet to go to prayers, for all was lost. Plymouth, the next port ahead, though commanded by a governor more or less sympathetic to the cause, lay on the wrong side of the desolation of Dartmoor—the Dartmoor of oncoming winter. But, just as Russell was thinking of ordering out a boat to acquaint the Prince, on a sudden, so Burnet had recorded, "to all our wonder it calmed a little and a soft and happy gale of wind carried in the whole fleet in four hours' time into Torbay".

The fleet protected the transports and unhindered disembarkation began. William landed immediately and, as he turned to Burnet, he said, "What do you think of predestination now?"

That Monday, daylight had seen the English fleet standing on in pursuit, Beachy Head abeam. Then the change of wind that reversed the threatened disaster of William stopped the English pursuit.

Two thousand men were put ashore by nightfall at Torbay; and the work went on as the moon, waning in her last quarter, rose late over camp and sea. Also on the 6th and 7th, the work proceeded; in all 12,000 soldiers, a quarter cavalry, were put ashore. The artillery was taken into the Exe.

On the 6th, Dartmouth stood on. A storm stopped him at dawn of the 7th. He was blown back to the Downs. Then he learned where the enemy had landed.

The rest of the story is simply told.

On the 16th of the month, in wild weather, Dartmouth got almost as far as Torbay—once again to be blown off his quarry and glad, on the 22nd, to obtain refuge in Spithead. By the 26th, a grand desertion of James by his land forces had taken place; and he, the King, was back in London from Andover. Loyalties in the fleet were strained to breaking point. Information that the King intended to summon Parliament reached the fleet; but, already, lieutenant George Byng, on pretext of personal business, had wangled leave and borne to the Prince at Sherborne a message from certain of the dissident officers. Byng returned with a letter from the Prince to Dartmouth "quilted in the rowlers of his breeches". When should it be delivered? On December 2 Dartmouth was asked by the King to convey from Portsmouth into France the baby Prince of Wales. The admiral refused. It would, he declared, be treason to place the heir of England in the hands of the French. In utmost grief he begged James to pursue wiser counsels. Seven days later, *i.e.* by the 11th, the whole fleet knew that the Queen and the baby Prince had been bundled from London to the court of Louis and that James had left his capital. Then it was that captain Ashby laid the letter of William of Orange on admiral Dartmouth's 'toilet table'. To the invitation to join his fleet with that of the Prince and thereby safeguard the Protestant religion and the liberties of England, Dartmouth returned answer. Since the realm was without its sovereign and all in confusion, he would, for the sake of religion and law, comply, confident that the Prince would call Parliament and wise counsels bring an end to present strife. To Dartmouth the Catholic officers in the fleet laid down their commissions. From December 12 onwards William had nothing to fear from the erstwhile royal fleet.

The events by land from that December 12, 1688 to February 13, 1689—upon which day, in the Banqueting House at Whitehall, William III and Mary II became joint rulers of England—may here be passed over. Dartmouth brought back the fleet to the Nore. Like Pepys, he was not retained in his sovereign's employ.

It has commonly been supposed that direct treachery caused the immobilization of the English force at the Gunfleet, and that, in any case, had issue been joined, the disaffected officers would have fought tardily. For the former supposition there is no warrant; and it is likely that, had the fleets encountered at any time prior to the landing at Torbay, upon the first loosing of broadsides and in the familiar stink of gunpowder, all the traditional Anglo-Dutch bitterness would have been revived. Had Herbert been engaged while encumbered by his transports, he would, in all probability, have suffered disaster. But the "stars in their courses" or, rather, the winds in their paths, fought for William for three successive weeks—from the 1st to the 22nd of November—and, shortly thereafter, the defection upon land settled the issue. What William called "predestination" the detached critic is more inclined to label a lucky gamble—one of the luckiest in history!

Persepolis and the Tombs of the Kings

by MARGOT PEEL PRICKETT

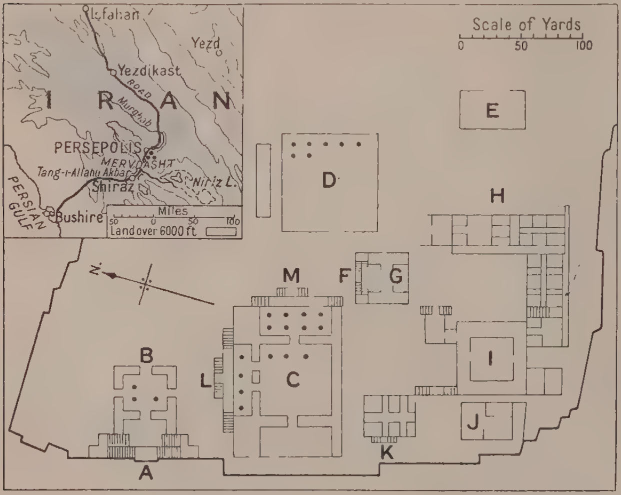
On the road from Yezdikast to Shiraz in the hot plain of Mervdasht stand the ruins of Persia's greatest city, Ishtakhr, better known by the nickname 'Persepolis', given to it by Alexander the Great when he ordered its destruction. It is a pun on the Greek word meaning 'destruction', and when the palace was burned, with it went the sacred books of Zoroaster, written in letters of gold and silver on 12,000 tanned ox-hides. The scattered fragments that have recently become familiar, not only to the archæologist but to tourists, are all that remain of the three huge palaces erected on a man-made platform by Darius, Xerxes and Artaxerxes. That the city itself lay more to the east is shown by the mounds still visible near the famous Rock Tombs.

When my husband and I visited Persepolis we left Shiraz shortly before dawn. The dew still glistened on the grass and the scent of roses and orange-blossom drifted through the dark cypresses. Persia seems never to sleep, as we had once found while spending a night in our car, and sauntering flocks of fat-tailed sheep were already half hidden in clouds of dust. But the atmosphere in the Tang-i-Allahu Akbar was piercingly clear, and looking back from this, the most beautiful mountain pass in Persia, the city lay behind us, a lilac mist in the valley.

The sun was rising as we approached Persepolis. Long shadows gave an added glory to the massive columns of the ruined palaces, outlining the reliefs so sharply that they seemed newly carved—not a curl disturbed in a lion's mane, nor a hair of the king's beard disarranged. Early though it was, members of the American Expedition in charge of the excavations had been at work for some time, and one of their number was detailed to show us the new discoveries.

The estrade or platform on which the palaces stood is like a stage, backed by the rock mountain; it juts out nearly a thousand feet at heights varying from twenty to fifty feet. Seen from a distance the few remaining pillars appear to rise from the plain itself, but, on approach, the ground falls away until the bold ramp which leads to the terrace climbs up a wall nearly fifty feet high.

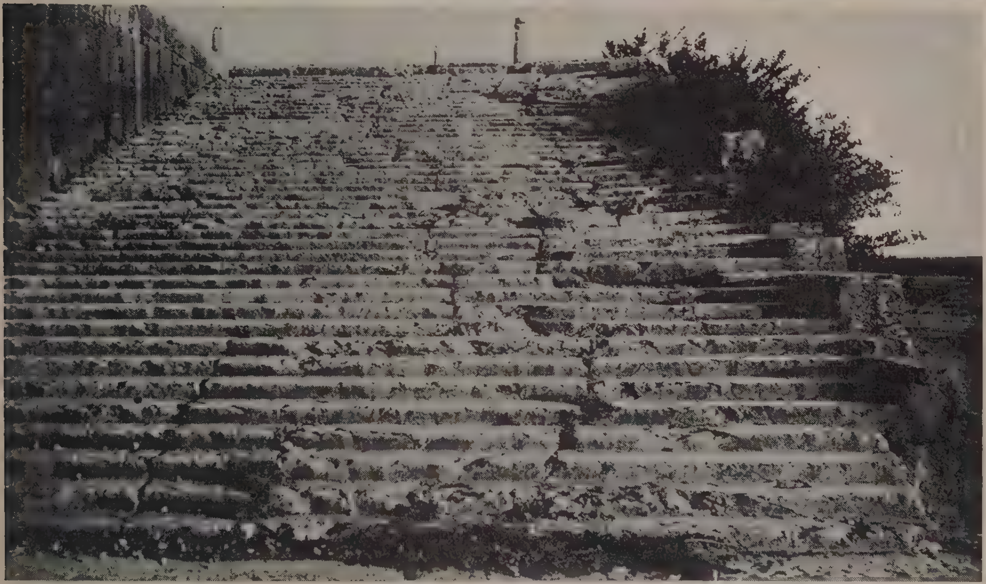
So wide is the stair, with its innumerable shallow steps, that six horsemen could ride up it abreast. In the spring, when we saw



Stanford, London

GROUND PLAN OF THE PALACES AT PERSEPOLIS

(A) *Entrance*
(B) *Gate of Xerxes*
(C) *Royal Audience Hall of Xerxes*
(D) *Hall of One Hundred Columns*
(E) *New Excavations*
(F) *Stairway and* (G) *entrance gate to Palace area*
(H) *Harem of Darius and Xerxes*
(I) *Palace of Xerxes*
(J) *Palace of Artaxerxes*
(K) *Winter Palace of Xerxes*
(L) *Northern and* (M) *eastern stairways to Royal Audience Hall of Xerxes*



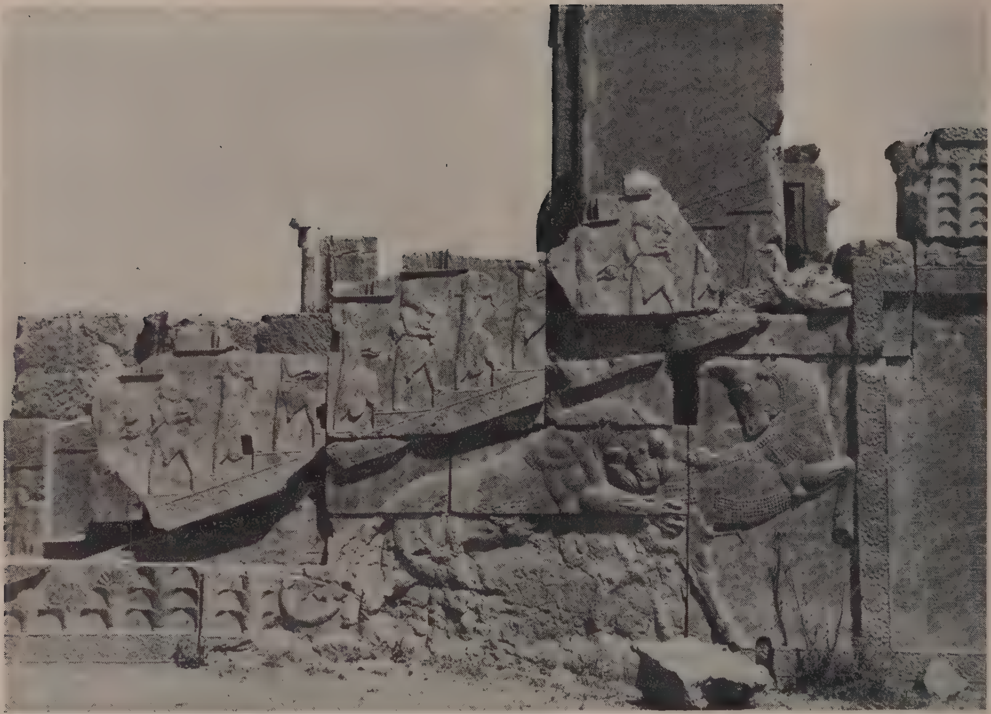
All photographs by Margot Peel Prickett

(Top left) *The Paitak Pass near Persepolis.* (Right) *Fat-tailed sheep, which are numerous in this part of Persia.* (Below) *The main stairway at Persepolis, leading up to the great platform on which stood the three palaces, of Darius, Xerxes and Artaxerxes. It is so wide and the slope of the stair so gradual that six horsemen could ride up it abreast*

it, with grass and tiny flowers growing from the interstices, it seemed a natural roadway.

At the top stand the two gigantic man-headed lion columns, all that remain of the Porch of Xerxes. These monoliths, reminiscent with their curled hair of the far older lions of Nineveh, have the same grandeur that makes the Temple of the Sun at Baalbek and the great Egyptian statues supreme among monuments.

The Apadana, an imposing stairway with a triple row of reliefs, comes next in importance, but its long processions of soldiers, captives, bearers of tribute, horses, etc., carved in flat relief, are too stereotyped to have the interest given by more animated figures, illustrating the daily life of the people, such as one sees in Angkor. But a lion leaping on an ox, in a side panel on the Apadana, is much more vivid, one can almost hear the snarl



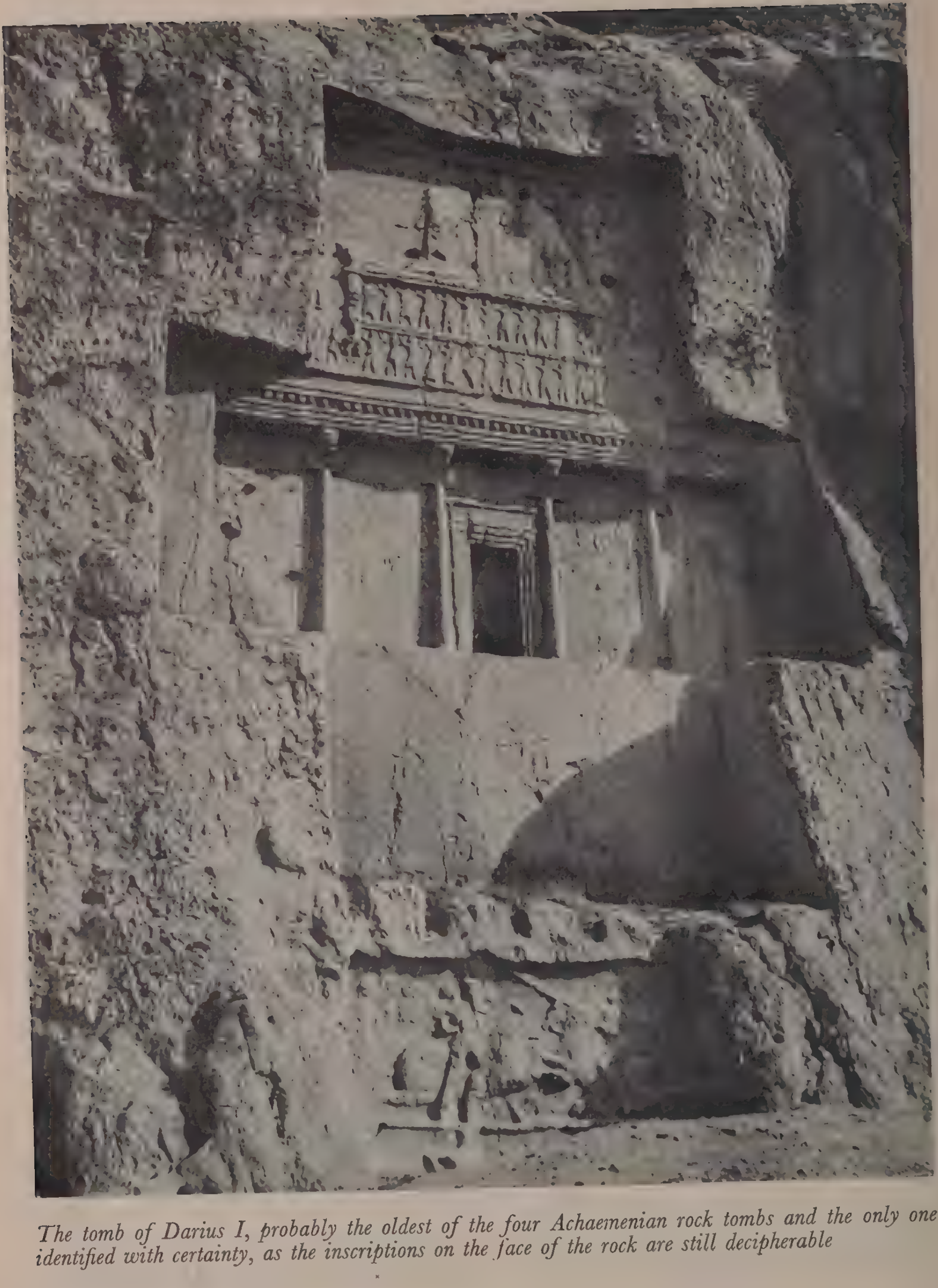
Part of a reconstructed panel showing a lion attacking a bull. (Opposite: top) *Detail of the Apadana, an imposing stairway with a triple row of reliefs leading to the Hall of Xerxes;* (bottom) *solitary pillars of the Hall of One Hundred Columns, on one of which the head of a bull is balanced precariously, and the North Doorway of the Hall. The panel portrays the king seated on his throne giving audience*

through the wrinkled nose; and a dromedary, strangely out of place in a world of camels, succeeds in looking supercilious. Otherwise the earlier, Achaemenian, sculpture lacks the freedom which characterizes the later, Sassanian, so amusingly in the cave of Taq-i-Bustan, and, in a lesser degree, in the Tombs of the Kings.

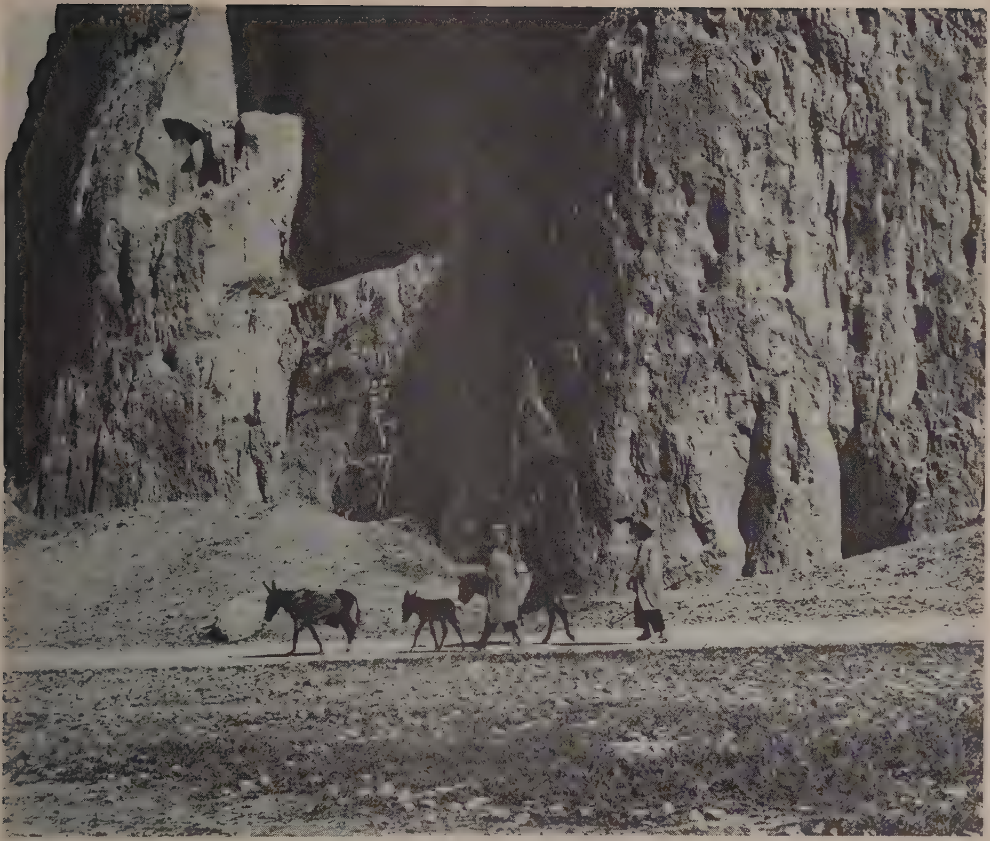
The solitary pillars of the Hall of a Hundred Columns, standing like sentinels of a dead past, have a pathetic splendour. On one the colossal head of a bull balances precariously, half on half off, as the result of an earthquake. A door-jamb shows a king, many times larger than life, killing an accommodatingly placid lion, and here and there lie fragments of some figure, or the huge head of a horse or bull.

Except for groups of isolated columns, low walls that are scarcely more than a ground plan, and a few rooms or halls with carved panels, the largest of which was the harem in Darius's palace, there is little to be seen by the casual visitor. But enough is left to enable excavators to draw plans which give a fair idea of the magnitude of this terrace of three palaces.

It is advisable to visit the Tombs of the Kings early in the morning when the slanting rays of the sun accentuate the rock carvings. The tombs lie some seven miles to the east of the palaces on the edge of the plain, and the road is hardly more than a rough track, twisting and turning between mounds of the buried city, low cliffs, and rugged boulders scattered by a recent earthquake. Once we dipped sharply to cross the nearly dry bed of the shallow Murghab. On the way we passed two Fire Altars in a wonderful state of preservation, and several flat slabs, probably used for votive offerings. Deep runnels or channels, too regular in formation to be accidental,



The tomb of Darius I, probably the oldest of the four Achaemenian rock tombs and the only one identified with certainty, as the inscriptions on the face of the rock are still decipherable



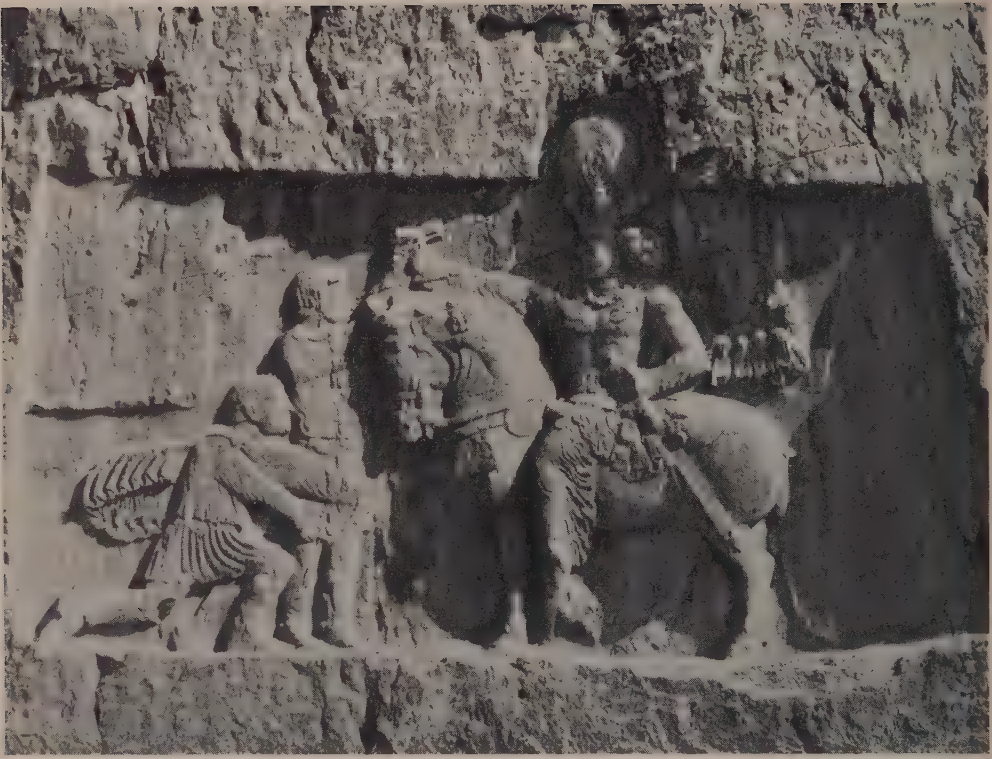
The fourth tomb in the row, possibly that of Artaxerxes. Underneath is the Sassanian relief representing Varahan IV in equestrian combat. The four tombs are almost identical, and, cut in cruciform shape, make the façade of a palace

suggested a system of irrigation, but nothing appears to be known for certain.

At last we reached the limestone cliff, Husein Kuh, on the dark face of which are cut the double rows of reliefs. The upper, 200 yards in length, contain the Achaemenid tombs; those of Darius the Great, Xerxes, Artaxerxes and Darius II. The only way to reach the entrances is to be hauled up by ropes, and it is said that, in the 5th century B.C., while a prince of the royal house of Persia was inspecting the Tomb of Darius, he fell and was killed. As a punishment fifty priests were promptly slain.

These four upper tombs are almost identical, and, cut in cruciform shape, represent the façade of a palace. In the centre gapes the open door, whence the stone has been rolled. Four semi-detached pillars support the projection on which is carved a double row of figures, twenty-eight in all, lifting a throne, and the king, holding a bow in his left hand, salutes the god Ormuzd. Apart from their historic value no particular interest attaches to these academic and uniform carvings which are many times larger than life.

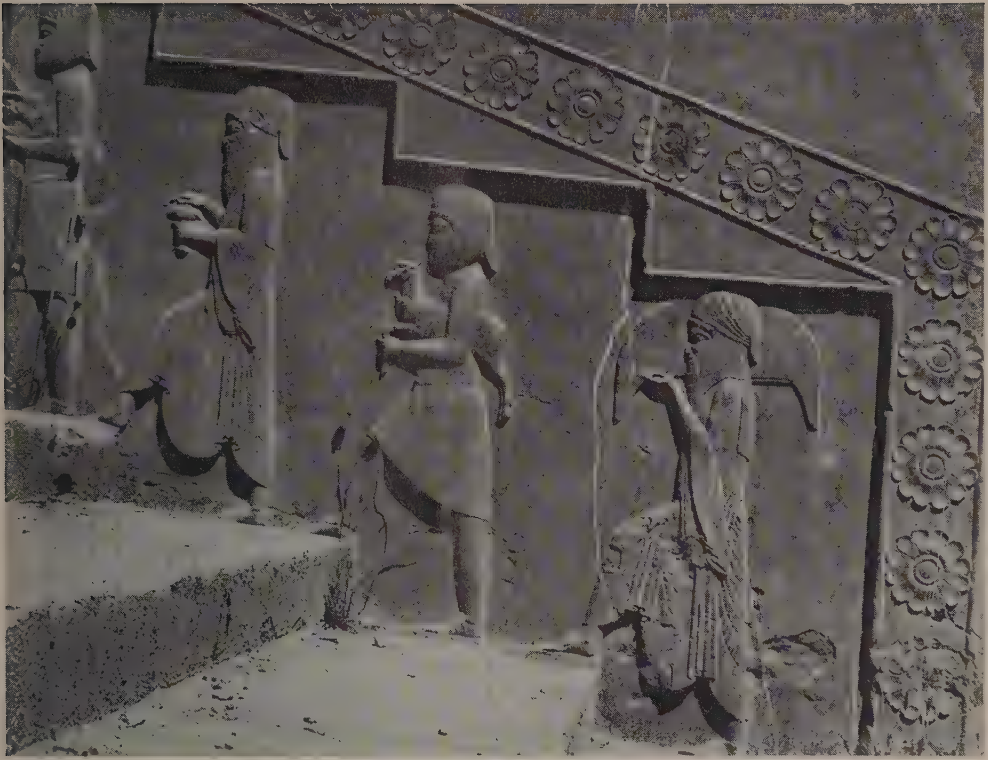
The seven lower Sassanian Reliefs, on the contrary, are full of life and movement, the horses being exceptionally good especially in the fourth tablet. Shapur is portrayed in



An excellent example of early Sassanian carving of the 3rd century A.D. *showing Shapur, son of Artaxerxes, receiving the surrender of the Emperor Valerian at Edessa. Shapur is portrayed in Roman dress, with dynastic fillets and a helmet crowned by a globe, symbolizing fire*

Roman dress, with dynastic fillets and a helmet crowned by a globe supposed to represent fire, and is receiving the surrender of the Emperor Valerian. The fifth relief is a repetition of the third, with a few minor differences, and the seventh is the investiture of Ardestur with the sacred *Cidaris* (tiara) by the god Ormuzd. The king, who was the founder of the Sassanian dynasty, reins in his horse which is trampling on a prostrate foe, Artabanus, the last king of Parthia. A quaint detail noticeable in all the equestrian carvings is the pair of tassels which decorate the horses' tails. Originally nine reliefs were intended, but blank spaces take the place of two. The sixth tablet follows the curve of the cliff and is cut on a somewhat smaller scale, though it, too, is much above life size. The king stands with hands folded on his sword hilt, in the conventional attitude; his courtiers, on either side behind two low barriers, give a quaint jack-in-the-box effect.

Opposite the tombs, on a slight mound, probably artificial, stands a great square building of white limestone contrasting sharply with the grim cliff behind. For many years the purpose of this tower was a matter of conjecture, opinion favouring the theory that it was the Tomb of Hystaspes, father of Darius the Great. Now it is generally accepted that at one time it contained the sarcophagus of Zoroaster, traces of a coffin supported by pro-



A panel on the Grand Stairway leading to the Royal Audience Hall of Xerxes (showing tribute bearers similar to those shown above the panel in the illustration on page 82). As it was buried under sand for a very long time, very little reconstruction was necessary

jections in the tower having been found. This suspension would have protected the earth from pollution, in accordance with his teaching. It is also possible that, following the practice of the common people, his skeleton might have been mummified before burial.

Zoroaster, or Zarathustra, born 660 B.C., like Mahomet saw visions, and endured long years of hardship and failure, until, accepted at Court, he converted Gestaps, king of East Persia, and formulated his creed, the Avesta.

The last thing one sees on bidding farewell to the Husein Kuh is, high overhead on a spur of the cliff, a short, squat pillar silhouetted against the sky. It is thought to have been erected in commemoration of an outbreak of plague.

We stayed by the tombs as long as possible in order to take photographs in the early sunshine, and then drove back to Persepolis. The wadi, silent and desolate when we had crossed before, was now the scene of noise and bustle. A caravan encamped on the banks; camels and donkeys churned the shallow waters to liquid gold, and the life of the people, to which the long-dead city bore witness, continued gaily.

Wind and Wave

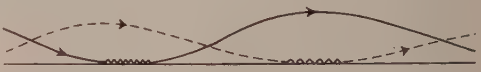
by GEORGE H. T. KIMBLE

Waves are still one of the "wonders of the deep" because, for all his long acquaintance with them, man understands little of their ways. Perhaps they yield up so few of their secrets because we regard them more in fear than in affection. Anyway there is still a lot we should like to know about them.

A 'wave', according to the dictionary, is "any regular periodic oscillation, the most noticeable case being that of waves on the sea". But a wave on the sea is more than an oscillation, as anybody knows who has watched a cork bobbing up and down on the sea surface. There is the movement of the wave, or more accurately the progression of the wave form across the surface, and there is also the actual movement of the water particles made manifest by the floating cork which moves a short distance in the direction of wave progression while it is on the crest of the wave, and back again approximately the same distance when it is in the trough. I say 'approximately' because the water particles in deep-sea wind waves are subject to a very slight progressive motion in the direction of wave propagation, in addition to their cyclic motion. The orbit within which this cyclic motion is accomplished is restricted. At the surface a particle practically describes a circle with a radius equal to half the height of the wave. Below the surface the radius described by a particle rapidly decreases with depth. Thus for a wave of 360-foot length (by 'length', I mean horizontal distance between two successive crests or troughs) and a height of 16 feet ('height' is the vertical distance between crest and trough), a particle at the surface describes a circle with a radius of 8 feet; at a depth of 40 feet, the radius is 4 feet; at 320 feet, it is only one-third of an inch.

WAVE DEVELOPMENT

For waves to begin at all, there must be a vertical component in the flow of air near the sea surface. If the flow of air over water were as frictionless as it is over glass, and there were no exchange of heat between air and water, there would be perfect streamline motion of air, and turbulence—eddy motion which provides for the upward and downward transfer of air—would be almost non-existent. Because the surface of the sea is seldom as "smooth as a mill-pond", and because air-streams easily acquire up-and-down components of velocity when the temperature of the sea and air differ (which is usually the case), this condition of equilibrium is rare. Even with winds of force 1 and 2, that is, winds of less than seven miles an hour, there is commonly a well-defined turbulent layer. Once this equilibrium is disturbed—and it is so delicate that in almost still air the flight of a bird may disturb it—waves soon begin to form. 'Ripples' in the air-stream which is in contact with the water surface produce sympathetic ripples in the water. From the shape of these initial ripples it appears that in most instances the air-stream strikes the sea at a very small angle—something of the order of four degrees—and that the flow of air is of an interlacing variety, giving a sequence of miniature peaks and troughs when traced in both a longitudinal and transverse direction, thus:



As soon as the entire lowest layer of air is set in motion, it acts on the sea surface as a whole and starts to drive the ripples into groups, that is, into a recognizable wave system.

WAVE FORM

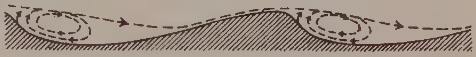
Once a wave system is well-developed, it begins to influence the motion of the air immediately above. Thus, on the weather side of a wave the air-streamlines conform to the wave profile and the air particles are accelerated, as friction is reduced to a minimum and air and water particles work together in 'double harness', so to speak. At the crest the accelerated air particles tend to be shot forward on account of their inertia and they retain, at first, a small upward velocity. This can be deduced from the motion of sea-birds: thus gulls allow waves

Paul Popper

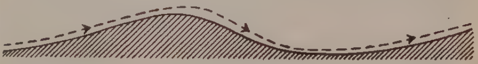
Breaking waves: in travelling from deep water into shallow, a wave changes its character: it becomes shorter in length, higher and has a constantly steepening front; finally the crest falls over or 'breaks', giving rise to breakers and surf

to advance underneath them in order to let themselves be raised on outstretched wings by the airflow at the crests. Incidentally it has been estimated that in a strong wind there is so much 'lift' to these upward impulses near the crests that, depending on the design, etc., it can give an aeroplane as much as seven m.p.h. increase in velocity (when the 'lift' is transferred from the vertical to the horizontal plane). Once over the crest it is possible

that the entire air-stream will break away from the wave profile and shoot forward, as in the following illustration, and so allow eddies to form in the lee of the crest. It is these eddies, coupled with the greater wind



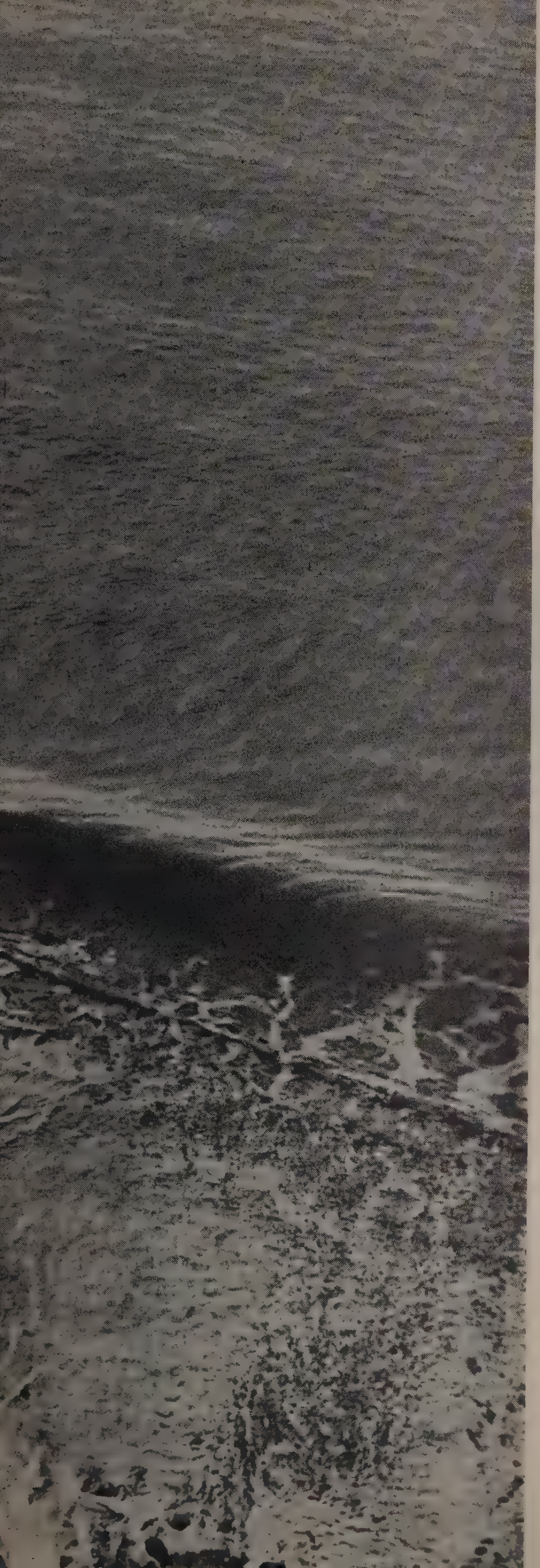
pressure exerted on the weather side of the wave, that help to give sea waves their characteristically non-symmetrical shape. However, the presence of eddies cannot be assumed, and often the arrangement would appear to be as follows:



Obviously a lot will depend on the angle at which the downward components of the air-stream strike the water. This angle is largely a function of the wind velocity and the temperature relation between air and water. When the air temperature is below that of the sea—as is normal in winter over, say, the North Atlantic—it can readily be shown that the vertical component is greater than when the reverse temperature relation holds, as it does on the average in the summer. Eddy motion is encouraged by the temperature gradient in the former case, and damped down in the latter. Given the same horizontal wind-force, the downward eddies in air colder than sea tend to hit the water surface at a higher angle and with greater velocity than in air warmer than sea, and so more kinetic energy is available for the building up of waves. This fact partly explains why any given wind usually raises a rougher sea in winter than in summer.

THE RULES OF THE WAVE

Now, contrary to appearances, fully-grown waves obey rules. For instance, the connection between wave-length, wave velocity (horizontal distance passed over by a wave in unit time) and period (time required for a complete wave to pass a fixed point) is settled



The depth at which a wave breaks appears to be dependent not only on the absolute depth of the water but also on the slope and nature of the bottom, and on such agencies as wind and current

Dorien Leigh

Val Doone

When the 'oscillatory' wind wave breaks, its foaming crest dashes down on the water surface in advance of the oncoming wave, producing a wave of translation which rolls shoreward from the break. It is so called because an object floating on the water over which such a wave travels would be carried a definite distance forward and come to rest, without exhibiting the corresponding backward motion observed in the deep-sea wave

by rigid equations of hydrodynamics. Hence if one of them is observed, there is no essentially fresh information to be obtained by observing any of the others. In round terms these equations are:

(1) Wave-length (feet) $= 5\frac{1}{8} \times$ the square of the period (seconds);
(2) Wave-velocity (feet per second) $= 2\frac{1}{4} \times$ the square root of the wave-length;
(3) Wave-velocity (feet per second) $= 5\frac{1}{8} \times$ the period, or $3\frac{1}{2} \times$ period when the wave velocity is measured in miles per hour, instead of feet per second.

From these equations we can say that, to take just one example, Atlantic rollers breaking on the north coast of Cornwall at intervals of 15 seconds or so will have, in deep water, an average length of some 1150 feet and a velocity, also in deep water (length and velocity, but not period, alter rapidly on the wave approaching shallow water), of some 52 miles per hour.

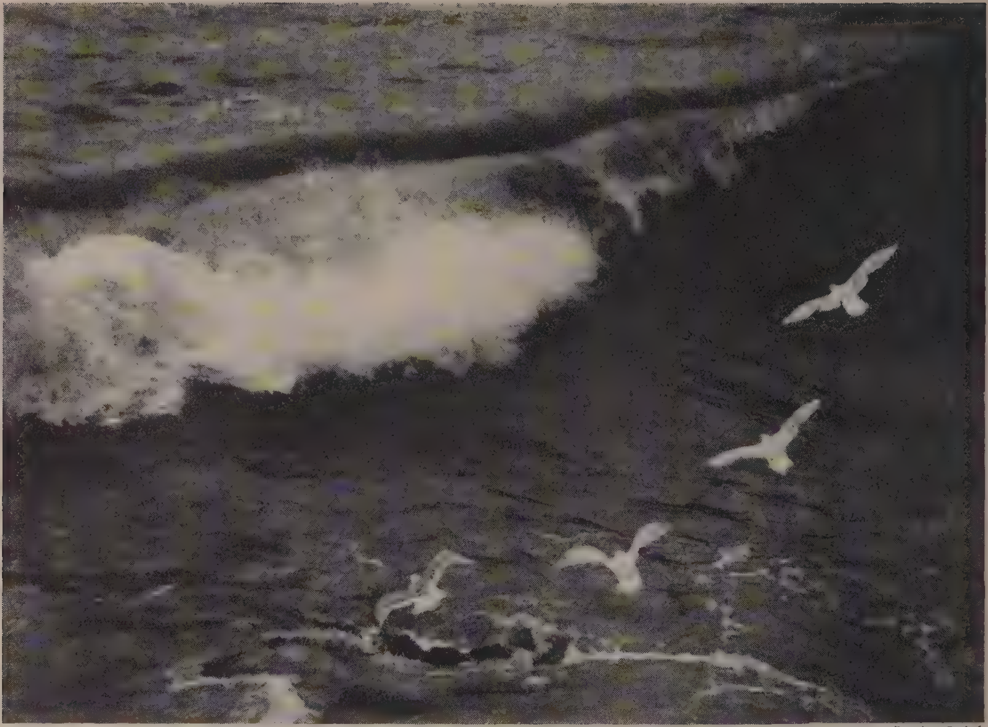
In fact, a train of waves advances at half the speed of any one wave, for were we to follow the motion of the first wave of the train we should find that it dies out, the wave behind it taking the lead until it in turn dies out, and so on. You can see that it is so, by watching the outermost ripples made by a stone thrown into a pond.

Now as it is pretty certain that a wave cannot travel at a speed exceeding that of the wind which raised it, we conclude that there must be very definite upper limits to the

British Council

"The irresistible force and the immovable object". The force behind a wave can be enormous: really big waves exert a pressure of anything up to three and a half tons per square foot. Small wonder that they play such havoc with breakwaters and groynes. In 1877 at Wick, in the North East of Scotland, one such wave carried away a mass of concrete weighing about 2600 tons

length, velocity and period which ocean waves can obtain. Outside the tropical storm-belt, winds of more than 80 miles per hour are so uncommon that we can ignore them from the wave-raising point of view. Taking an 80-mile-an-hour gale as our upper limit, and assuming that it lasts long enough to raise waves travelling at round about that speed, we find from our equations that such waves would have a length of approximately 2600 feet, and a period of nearly 23 seconds, which, incidentally, is the longest period ever observed around our shores. Further, a train of such waves would travel over the ocean at 40 miles per hour—somewhat faster than our fastest liners. More often than not though, the length of fetch (distance over which the wind remains roughly constant in force and direction) is not long enough to establish a train of these dimensions: indeed, within the storm centre it is most unlikely that you will find waves of more than 600 feet in length, but as there is no physical reason to suppose that waves increase in length once they are set in motion, unless, of course, the wind increases temporarily, we can only presume that the larger waves are present during the storm and remain masked by the dominant and steeper storm waves. At the same time sailors frequently report the more rapid movement through and past these waves of something like the "shadow of a scudding cloud", which may well be the longer wave.



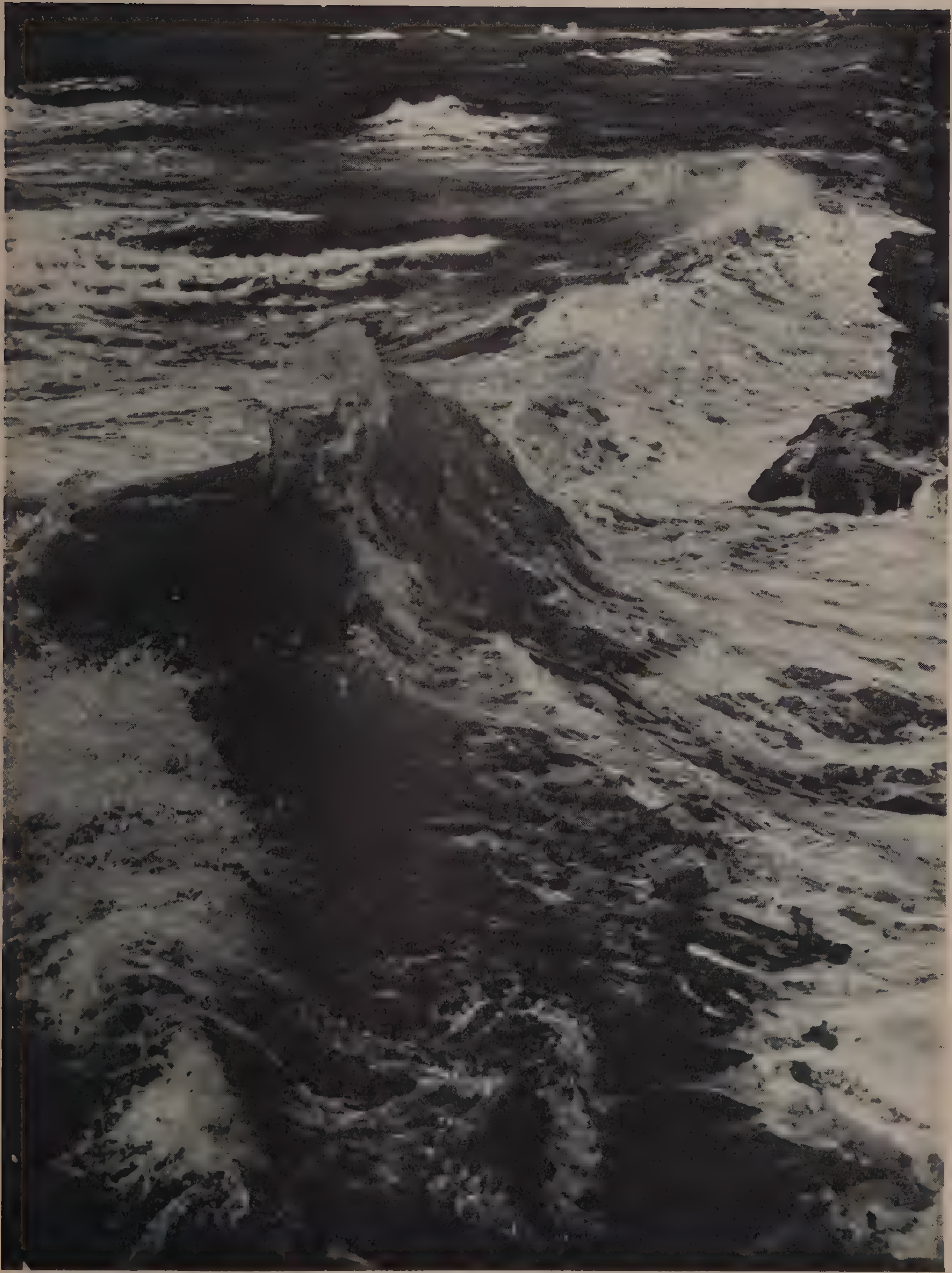
Dorien Leigh

(Above) *Gulls soaring: they allow waves to advance underneath them and thus they are raised on outstretched wings by the air flow at the crests.* (Opposite) *Aerial photographs are beginning to teach us a great deal about the persistence of wave patterns, and the way big wave peaks are formed. It is possible for as many as six or eight separate wave systems with different height-length ratios to interweave and to retain their identity for hours on end. Where the various wave crests intersect, there the main 'peaks' occur, and the greater the number of wave systems intersecting at the same point the higher, generally speaking, is the resulting peak*

For the most part, however, sailors are more concerned about the height than the length of storm waves. Here science offers us no axioms, only a few rules of thumb. Take this one, for example:

Height (feet) of waves in heavy gales = 1·5 × square root of the fetch (fetch here signifying merely "reach of open sea"). Applying this formula, we get 45 feet as the probable height of a wave having a fetch of some 900 miles—a value that is well above the average height found in mid-Atlantic, even in winter. A simpler, but still less reliable, rule gives the maximum height of a wave (in feet) as being equal to half the wind speed in miles per hour; from this we gather that our 80-mile-an-hour gale is only capable of producing a 40-foot peak, whereas there are authentic cases of such hurricanes raising waves to a height of at least 80 feet (s.s. *Majestic* reported "mountainous seas" of this order on December 29, 1922). Notwithstanding, reliable observations of waves exceeding 40 feet are sufficiently uncommon to be the subject of correspondence in nautical journals when they do occur.

The following table, recently compiled by Dr Vaughan Cornish, may be taken as giving, approximately, the maximum height of recurrent waves formed by winds of different speeds upon the open ocean far from the windward shore:



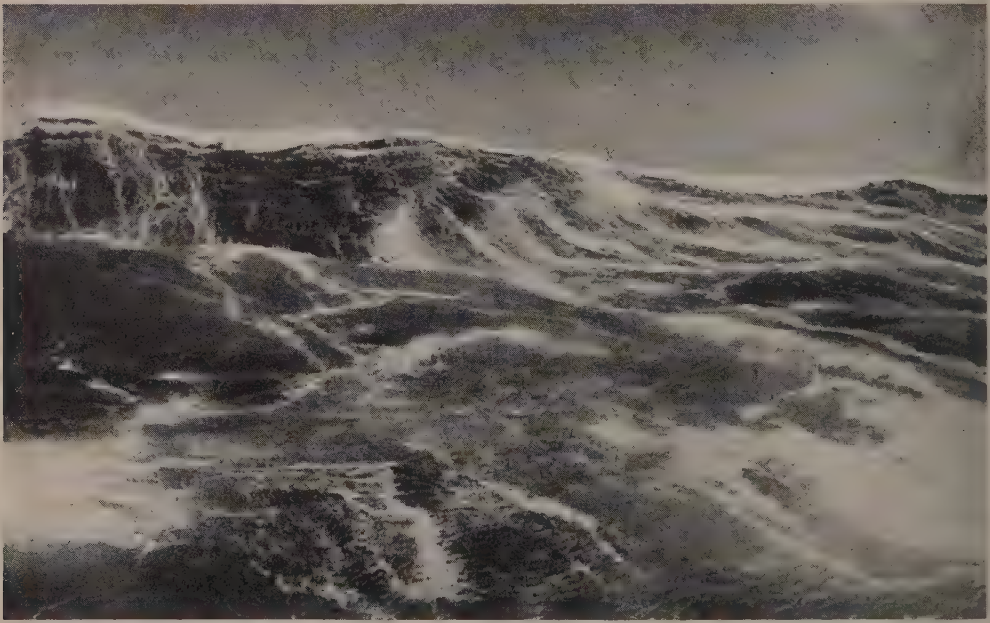
Barnaby's

Beaufort Number	Wind Speed, m.p.h.	Height of Waves, feet
6-7	31	21
8	42	29
9	50	35
10-11	63.5	45
12	Above 75	About 70

(The Beaufort number is used in navigation to indicate the wind's force: *e.g.* 6=strong breeze: 12=hurricane.)

SWELL

Up to now, I have spoken only of wind (or forced) waves, and assumed that the waves at any point are due to the wind at that point. But, as I have already remarked, as soon as waves form, they begin to travel. Those that succeed in getting outside the wave-raising zone gradually lose height and persist as gentle undulations known as free waves or ground swell, or simply as swell. Given sufficient momentum, and provided they do not encounter strong winds from a contrary direction, there is no reason why these swell waves should not travel almost from one side of the Atlantic to the other, retaining throughout their original length and velocity, and decreasing in height with distance from their source region. (Although the analogy is not strictly true, we all know how persistent are the ripples propagated by throwing a stone into a pond: not only do they usually persist until they reach the shore, but they persist even when crossed by ripples started up by other stones.) As a matter of fact there are cases on record where swell waves did this, accomplishing the distance in a mere three or four days. On one such occasion (January 1913) a series of long swells originating somewhere off Newfoundland paralysed the commerce of the Moroccan port of Casablanca for several months by damaging ships and barges. As a result of this disaster the French authorities began investigating the occurrence of heavy swell along the coast of Morocco and found that in the majority of instances it is associated with strong winds blowing in the rear of depressions crossing the North Atlantic, from south of Newfoundland to Iceland. The incoming swell is strongest when light northerly winds or calms obtain over most of the sea between the coast and the storm in question. On such occasions the time of arrival of the heaviest swell and its intensity can be forecast with considerable precision anything up to two days ahead.



Dorien Leigh

Atlantic storm waves: a thirty-foot 'wall' of water raised by a South Atlantic gale

India's North-West Frontier

by SIR WILLIAM P. BARTON, K.C.I.E., C.S.I.

In summarizing his view of the present situation in the ever important region that divides Afghanistan from India, Sir William Barton is drawing upon long personal experience: he was in the Foreign and Political Department of the Government of India and served for twenty years on the Afghan frontier, chiefly as a political officer

THE Afghan borderland is the Achilles heel of India. The Germans know this, and their General Staff, for years before the outbreak of the war, worked insidiously to create embarrassment for Britain on her great imperial frontier. There can be little doubt that the projected German drive to the Caucasus has, as its ultimate objective, an attack on India through Persia and Afghanistan, possibly in conjunction with Japanese forces operating through the Persian Gulf.

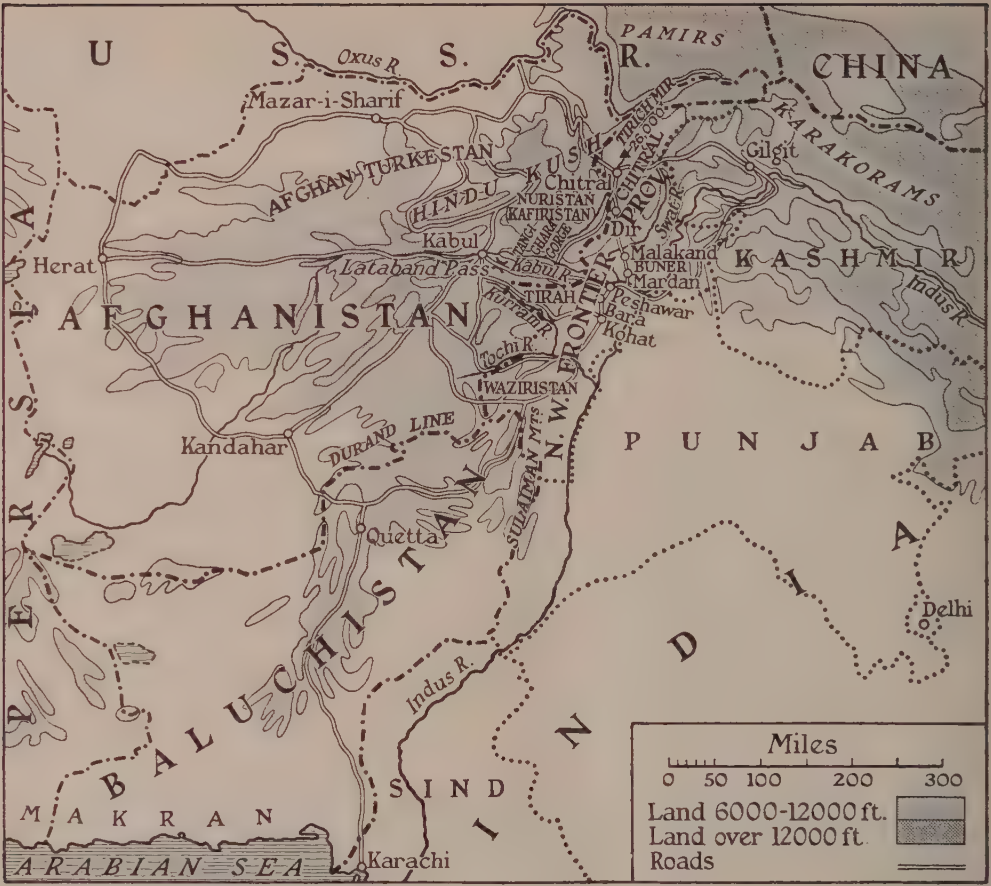
The threat of a Japanese invasion from the north-east has to some extent distracted public attention from the Afghan borderland. Nevertheless the problem, not only of maintaining peace in those regions, but of preparing against a possible Axis attack, remains as insistent as ever. A sketch of the present situation there should accordingly be of interest.

The ethnographical boundary of India is the Indus; Hinduism has no roots beyond that great river which marks the boundary of the militant Islam of Central Asia. In the country between the Indus and the Persian and Russian borders the predominant element in the population is Pathan or Afghan of Turko-Iranian origin, speaking a language more or less akin to Persian, with a history, traditions, culture and religion remote from the currents of Indian, and especially of Hindu, life. About the middle of the 18th century the Afghans built up an empire comprising the present Afghan kingdom, most of the Punjab, the Frontier Province, Sind, Baluchistan and Kashmir. The Punjab and Kashmir soon fell away; the Sikhs established a precarious hold over the plain-country beyond the Indus, where the British succeeded them in 1849.

Afghan political and social life is based almost everywhere on the tribal system, though this has disintegrated to a considerable extent in the British administered districts. The chief characteristics of the Afghan are his fierce devotion to Islam and to tribal custom, his independence, his arrogance and his love of fighting. He has a dislike of and contempt for the Hindu. In tribal areas life is made precarious by the blood feud; there is nothing resembling a system of government in primitive Afghan republics where every man's hand is against his neighbour. Yet the border will rise as one man to resist encroachment or to defend its much prized Islam against a supposed threat. Politically, tribal loyalty, even in the British sphere of influence, is directed to Kabul rather than to Delhi; nevertheless where tribal country is difficult of access official interference even from Kabul is resented.

The difficulty of the British administrator in assimilating such refractory human material into a system of settled government is enhanced by the rugged and arduous nature of the great tribal zone which extends practically from the Pamirs beyond Chitral in the north to the Sulaiman mountains and Baluchistan in the south. The British soon found that the Afghan Government, although it claimed the allegiance of the tribes of the mountain hinterland adjoining the British administered districts, could not control them; so long as they were nominally Afghan subjects the British-Indian Government could not deal effectively with them; finally in 1895 the then Amir was induced to agree to the demarcation of a new political boundary between Afghanistan and India known as the Durand line which divided the allegiance of the tribal zone between the two governments.

The territory between the Indus and the Durand line is roughly 40,000 square miles; the Pathan or Afghan population is about 5½ millions, as compared with 7½ millions out of 12 million people in the Afghan kingdom. About 3 millions of the 5½ are domiciled in the British tribal hinterland. The king-emperor's writ does not run in such territory except in the Tochi and Kurram valleys where a rough-and-ready system of administration based on tribal custom is in vogue.



Stanford, London

It has to be admitted that nearly a century of British rule has not solved the problem of bringing the Afghan tribes into the Indian political system. Punitive expeditions have been frequent from one end of the frontier to the other, especially in recent years; nearly half the Indian army is normally disposed along it, mainly to hold in check 300,000 or 400,000 fighting men, mostly armed with modern rifles, of the border hills. Millions of money have been spent in the past few years in military operations; nearly 40,000 troops were employed in the Waziristan campaign three years or so ago.

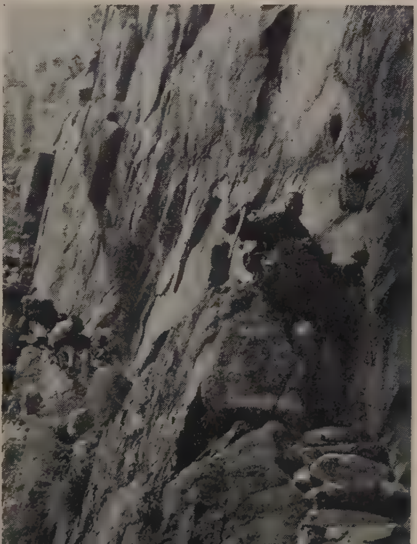
Something has been done of recent years to open up the tribal hinterland. There is a motorable road across the Malakand through Dir to Chitral; though stretches of it, in Chitral, are better avoided by travellers with weak nerves; a road of some military importance has been built lately from the Swat valley through Buner to the Mardan district by the Wali of Swat, a Pathan religious leader who has brought the Swat tribes under control and in alliance with the Government of India has established peace in a very unsettled border tract. His neighbour, the Nawab of Dir, another British feudatory, has built a motor road through his territories. A network of roads, linked up with British districts, through Waziristan has had a sedative effect on the Mahsuds and other tribes, but while there are irritants in frontier life such as the fanatical warrior priest, the Fakir of Ipi, the danger of a fresh outbreak has always to be faced.

The Durand line has few advantages from the strategic point of view, and there are experts who think the Hindu Kush the real strategic frontier of India. However that may be, we may be content to leave that stupendous mountain mass in the safe keeping of a friendly Afghanistan. It marks the division between Afghan and Turk and is a strong

A pass in that famous range, the Hindu Kush, which forms the southern boundary of Afghan-Turkestan. Separated from the Himalayas, of which it is a continuation, by the river Indus, it forms the great watershed between the basins of two other rivers, the Kabul and the Oxus

All photographs from Dorien Leigh

The lower photograph on the left gives an idea of the sort of country an invading force would have to negotiate to penetrate this formidable mountain barrier



On the right is another view of the Hindu Kush taken through some of the long, graceful grass which grows on the mountainsides

a

Women from Kafiristan (the country of unbelievers), officially designated Nuristan (the abode of light) since 1895, when the unbelievers were subdued or forcibly converted to Islam by Afghan armies. They are a fair-skinned, good-looking race. Legend assigned to them Greek origin dating from the time of Alexander's invasion of India. Their territory lies between Chitral and Afghanistan. (Opposite) *A narrow bridge across a Chitral river gorge where traffic must be single file*

line of defence against an attack on the heart of the Afghan homelands from the north. Apart from its strategic value it has disadvantages, from the Afghan point of view, in that it isolates the richest Afghan province, Afghan-Turkestan, from Kabul, the political centre of the country.

Starting from the great mountain of Tirich Mir (26,000 ft.), an offshoot of the Karakorams, in Chitral, the range comprises in the north-east of Afghanistan the province of Kafiristan (the country of the unbelievers), officially designated Nuristan (the abode of light) since 1895, when the unbelievers were subdued or forcibly converted to Islam by Afghan armies. The people are a fair-skinned, good-looking race practising peculiar customs. Legend assigned to them Greek origin dating from the time of Alexander's invasion of India; that, however, no longer finds credence. As in Chitral, their homesteads are frequently built on precipitous mountain sides. North of Kabul the range with the foothills has a width of nearly two hundred miles; it finally subsides to about 3000 feet at Herat, near the Persian border; Herat, described as the Key of India by one of her greatest conquerors, the emperor Baber. Huge mountain masses obtrude between this famous city and Kabul, and until recently the easiest way of access between the two cities was via Kandahar in the south. Even on this route there are high mountain passes to overcome. It is believed that a direct route suitable for motor traffic is under construction.

Most of Afghanistan is mountain or tableland. South of the Hindu Kush the country

One of the less difficult passes in the Hindu Kush. North of Kabul the range, with the foothills, has a width of nearly 200 miles; its huge mountain masses obtrude between Herat and Kabul and until recently the easiest way to go from one to the other of these cities was by Kandahar, though even on this route there are high passes to overcome

is mainly pastoral, and many of the tribes are for this reason nomad; masses of them move down into India for trade and grazing in the cold weather. A Ghilzai caravan meandering through the passes in November might, if you overlook the modern rifle, recall Biblical stories of the nomad Israelites. Great clans like the Ghilzais are impatient of official control, and when the Kabul Government is weak their tribal republics are almost an *imperium in imperio.* Only recently they were in rebellion in southern Afghanistan; in bringing them to book Afghan troops used the aeroplane. The British authorities disarm the Afghan nomads during their stay in British territory in the cold weather.

The present ruling family has been in power since 1929, when Nadir Khan drove out the usurper, Bacha Saqqao. It may be noted that the strongest element in Nadir's armies was composed of Wazirs and Mahsuds from the British side of the Durand line. They thoroughly looted Kabul, which gave them a taste for king-making. His Majesty, Nadir Shah, had spent a long time in exile in Paris; his son the present king was educated there and speaks French well. His uncle, H.R.H. Muhammad Hashim Khan, the prime minister, like his elder brother, was a long time abroad and speaks English fluently.

The enlightened rule of this talented family has given Afghanistan the best system of government it has ever had, and has done much to stimulate the economic development of the country.

It is a matter of regret that in this enterprise British experts have played only a minor part; the work has been mainly in the hands of German technicians heavily subsidized by the German Government. At the outbreak of the war there were over a hundred German experts in Afghan employ, setting up factories, hydro-electric plants, building roads and bridges. Much of the plant and machinery was supplied by Germany at uneconomic prices. There was a bi-weekly air service between Berlin and Kabul via Tehran; a wireless installation was a further link between the two cities. In the circumstances it is hardly surprising that the Afghans accepted German aid, especially as the British authorities were too much inclined to regard economic development as a thing apart from political considerations. There were German schools in Kabul and Afghan students were educated in Germany at the expense of the German Government. Italians were much in evidence; so were the Japanese, whose trade before the war was second in value to that of India. None of these members of the Axis lost an opportunity of anti-British propaganda. There is little doubt that they have on many occasions endeavoured to suborn the border tribes. Good reason exists for regarding the attempted insurrection in September 1939, which had as its object the placing of a German nominee on the Kabul throne, as due to the machinations of German agents. The plot was woven in Tirah on the British side of the Durand line.

Perhaps the greatest engineering achievement of the present régime is the construction of a motor road from Kabul to Mazār-i-Sharif on the Oxus, over the Hindu Kush. As I have already said, much of the potential wealth of Afghanistan lies in the Oxus region. Long staple cotton is grown there; also sugar beet, soya bean, tobacco and other 'money' crops. Sugar beet factories have been set up and Afghanistan will soon produce all the sugar it requires. Textile factories driven by hydro-electric power have been constructed. Coal deposits are found in the foothills. Lorries ply daily over the passes, bringing the produce of the Oxus region southwards.

Another road, 193 miles in length, connects Kabul with Peshawar and it is now possible to motor from that city to the Oxus, some 600 miles, in four days or so along this new Great North Road. Some 6000 Afghans are at present working on a diversion of the Peshawar road along the Kabul river valley through the precipitous gorge of Tangi Ghara, which will shorten the route by 30 miles and avoid the difficult Lataband pass which at times is obstructed by snow. When I was in Kabul about a year ago the Afghan authorities seemed doubtful as to whether the economic life-line of the country should not run through Kandahar to Quetta and so to Karachi or a port on the Makran coast, rather than through Peshawar. There is some talk of railways, and the Afghans want up-to-date advice on the relative merits of railways and roads.

The numerous cascades on the north of the Hindu Kush offer great possibilities for the development of cheap electric power. An installation has already been set up. It may be possible to use electric power to drive a tramway over the mountains.

The peace of the Afghan borderland, especially in times of crisis, depends largely on British relations with Kabul. In the first world war the Amir, Habibullah, was friendly, and thanks to his influence, though anti-British feeling was strong among the tribes because of the alliance of Turkey with the Central Powers, there were only sporadic outbreaks. Had the Amir declared a *jihad*, or holy war, on Turkey's behalf the whole border would have been in flames; a hundred thousand men would have been necessary to meet the attack. So far there have been no serious repercussions from the present war on Afghan opinion, either on the British or Afghan side of the political boundary. It is of the first importance that Turkey is neutral, and if anything more friendly to the Allies than to Germany. The occupation of strategic points in Persia and Iraq by Russo-British forces caused some excitement among the Afghans, but it was generally felt that there was good reason for Allied intervention and the excitement soon subsided. In fact one important tribe took upon itself the responsibility of telegraphing its advice to the Iraq authorities to support the British. Many of the tribes offered recruits for the Indian armies.

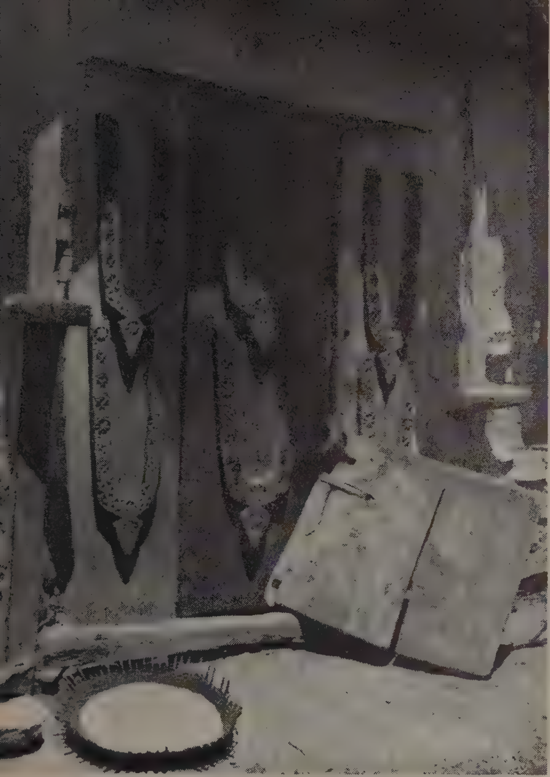
The peaceful atmosphere in the British tribal hinterland is further shown by the fact that the Governor of the Frontier Province recently travelled through the heart of Waziristan escorted only by tribesmen. The Afghan Government has observed a strict neutrality, while endeavouring to check the efforts of German agents to rouse the border tribes against Britain. The Germans, it is believed, went so far as to offer to restore to

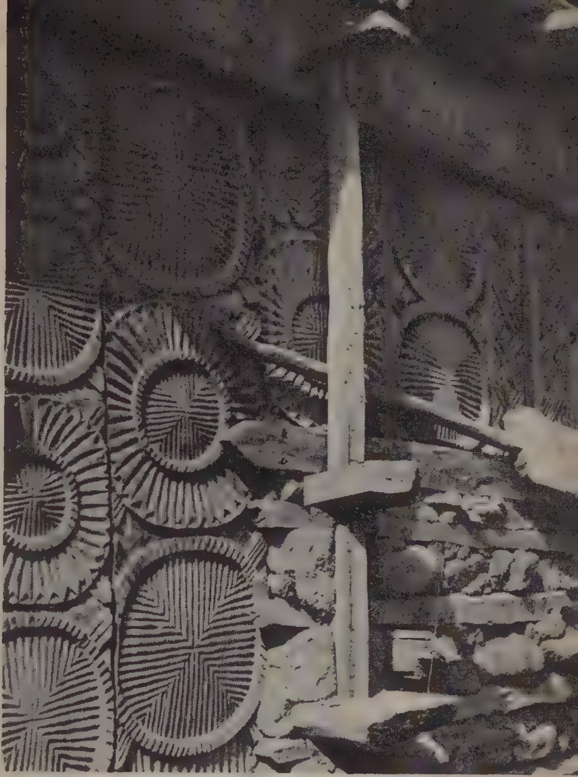
Afghanistan its lost provinces as far as the Indus and the Arabian Sea. German technicians remained in the country, though their work was brought almost to a standstill by the cutting-off of supplies and equipment which could only be brought up through Indian ports. The Germans hoped to be allowed to import material via Russian Turkestan across the Oxus, but this was refused. The Afghan Government felt that German technicians working in most parts of the country might prejudice their neutrality, but apparently because of the possible danger of trouble with Russia as the ally of Germany they refrained from taking action. They promptly dismissed these agents of Germany as soon as the Germans attacked Russia, though naturally the Germen legation remained at Kabul along with those of Italy and Japan.

On the further side of the Durand line the Afghans do not regard the possibility of a Hindu *raj* at Delhi with equanimity. They rely on the moral and material support of the British Empire to secure their position. Should the British cease to be responsible for the defence of India it is not unlikely that there would be an agitation on both sides of the Durand line for the restoration to Afghanistan of its lost provinces. On the other hand an Indian government divorced from British support might have to face a serious problem in the growing nationalism of the Afghan borderland.

Peaceful conditions on the North-West Frontier have been of the greatest value in the present crisis, and it should have been possible to move large bodies of troops from those regions to the N.E. frontier to meet the threat of invasion from that direction. The Afghans have no love for the Japanese and are unlikely to create a situation which would lighten their efforts to penetrate India.

We may be sure that no effort will be spared to cultivate the friendship of Kabul. To solve the Border problem the Kabul and the British governments must work together for the pacification of the tribal zone. Much depends on the development of the natural resources of Afghanistan. It may be expected that the Afghans will invite the British to help in this important work and to play the part hitherto left to the Germans. Friendly cooperation in the economic field should do much to cement friendship between Briton and Afghan.





(Opposite) *Isolated dwellings, at the foot of the Hindu Kush, are built in the form of forts, and would not easily be stormed by enemies. Divided by clefts in the rock, in winter both villages and houses are often completely cut off from their neighbours*

(Above) *The more important houses in Kafiristan have elaborate carvings on the doorways. The designs are symbolic and are probably relics of the customs of its warrior-tribe in the days of Tamerlane who, in the 12th century, established his base at Kabul for his invasion of India.* (Right) *View of a village in the Parun valley; behind it the snowy peaks of the Hindu Kush can be seen*

European Agriculture

A Regional Survey

by L. DUDLEY STAMP, D.Sc.

This article incorporates the points made by Dr Stamp in his address to a Conference on European Agriculture held in March by the British Association. He is Director of the Land Utilization Survey of Britain, has studied and advised on major agricultural problems in Europe, Asia, Africa and North and South America, and is now Vice-Chairman of Lord Justice Scott's Committee on the future use of rural land

It is impossible to predict with any degree of accuracy the course which the post-war rehabilitation of European agriculture will follow: whether, for example, the tendency will be towards the reconstruction of types of farming evolved before the war in response to the economic conditions then prevailing, or towards new types in response to new conditions. In either case there are limits, set by physical conditions, within which developments are possible and factors which controlled the types of farming in pre-war years must continue to exercise limiting control after the war. Europe, indeed, can be divided into agricultural regions within which only certain crops can be grown and therefore only certain types of farming practised. Inside an individual region, however, there is often a wide divergence in the intensity and efficiency as well as in the actual objects of farming enterprises.

The first and greatest controlling influence is climate, and in Europe the most significant element of climate is temperature. Passing from south to north in Europe, summer temperatures on the whole become gradually less, whether measured in terms of the average temperature of the warmest month, in the length of the growing season or, more accurately, in terms of accumulated summer temperature. Thus, within the confines of the continent of Europe one reaches successively the northern limits in which the chief food grains of both men and animals can ripen: first of rice, which will not ripen outside certain favoured areas of Mediterranean countries, then of maize or corn, then of wheat, and finally of oats and barley. A physical or geographical northern limit is thus set to types of agriculture based on these different food grains.

Within these absolute limits it is often true that the crops which grow near the margin are, if they survive, exceptional either for quality or yield—an instance of the survival of the fittest—but the risk of crop failure is great. This risk usually sets an economic limit, considerably to the south of the geographical limit, beyond which large-scale cultivation if theoretically possible is too uncertain to be economic.

It is not easy to draw precise lines indicating these crop limits because of the existence of 'pockets' with favourable local or 'microclimatic' conditions outside the main areas. Taking wheat as an example, it may be said that the northern geographical limits are reached in the north of Scotland, Norway, northern Sweden and Finland, but that, in spite of the high yield in favoured parts of eastern Scotland (considerably above the average for England), the economic limit of cultivation on a considerable scale is marked by a line drawn through north Yorkshire, Denmark, southern Sweden and Lithuania. This means that the whole of Norway, nearly all of Sweden, the whole of Finland, Estonia and Latvia, lie, and for the most part must continue to lie, outside the main wheat-growing belt.

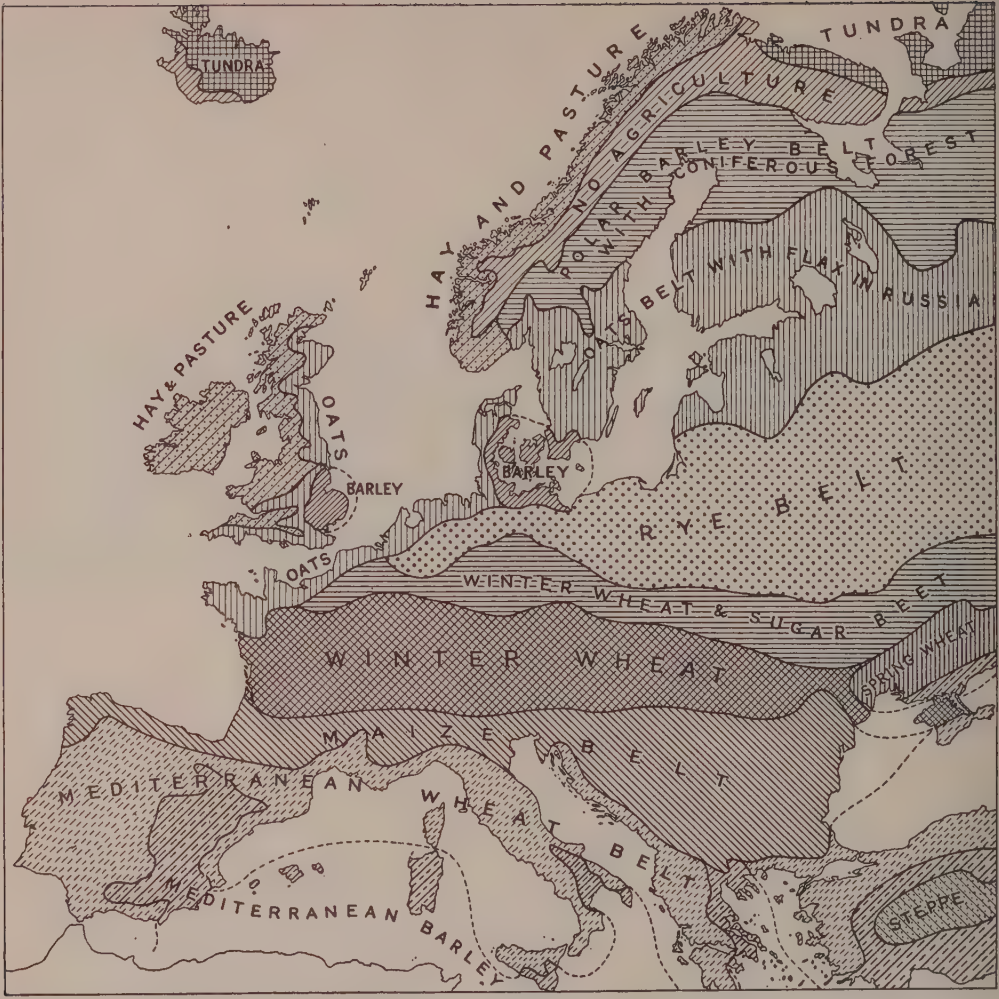
It is true that agricultural research, by developing strains of wheat which can ripen with a shorter growing season, tends to extend the limits ever further northwards, but unfortunately the new lands thus brought into the area of possible cultivation are still 'marginal' and must find competition (except under close protection) with lands more favoured by nature extremely difficult; it is all too easy to develop a complacent belief in the omnipotence of science over those very laws of nature on which science itself is based.

Barley, able to take advantage of the long hours of sunlight of the northern summer

Geographical Publications

Contrasted types of agricultural land: above: *the flat lands of western Holland near Groningen with the old* polder, *now ploughed. On the right is the old sea wall with farmers' cottages in the centre, and the newer polder, still in grass, on the left.* Below: *In hilly country on the flanks of the Carpathians in Rumania, the mountains and higher hills are often forested where the size and shape of the fields as well as the crops depend on the slopes and the available land*

Geographical Publications

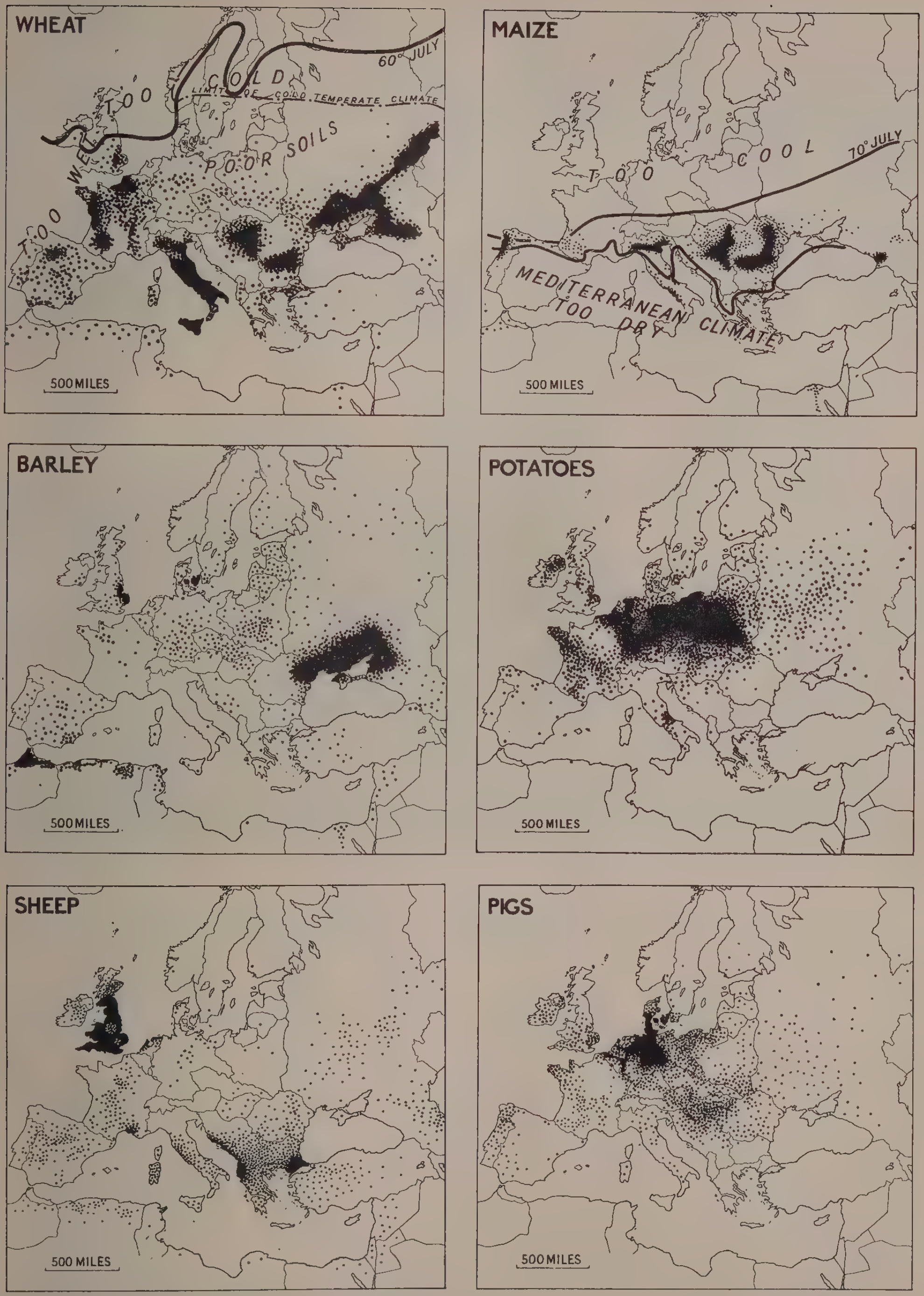


Grain Belts in Europe. As this map shows, Europe falls into a number of parallel belts, the northern ones without any important grain crop, the others each characterized by one or more dominant grain crops

days, extends further north than wheat—actually to within the Arctic Circle (Arctic or Polar barley).

Although the careful gardener can ripen, in some seasons at least, wonderful heads of corn or maize in Norfolk and elsewhere in England, broadly speaking the whole of this country lies well outside both the geographical and economic limits of maize cultivation. The economic northern limit of cultivation is marked roughly by the 70° F. isotherm for July—stretching approximately from Bordeaux in south-western France to Lwow in Poland. Thus, however much their cattle industries may have depended upon cheap imported maize, all the countries of northern Europe—including Belgium, Holland, Denmark, Czechoslovakia and Poland—lie outside the area where a home-produced supply of maize is possible.

Other climatic factors exercise limiting functions. One is winter cold. The intense winter cold of south-eastern Europe injures any grain sown in the autumn and so renders



These maps show that the main crops and domestic animals are not evenly distributed over Europe but concentrated in certain areas as a result of geographical, historical and economic conditions

Geographical Publications 1

L. D. Stamp 2

L. D. Stamp 3

L. D. Stamp 4

the autumn sowing impossible; spring wheat then takes the place of winter wheat. Plants natural to Mediterranean lands can stand only small amounts of winter frost and northern limits for the olive, orange and lemon are determined accordingly. So close is the correlation that the limits of the Mediterranean type of climate are frequently defined as the limits of olive cultivation. On the other hand excessive summer temperatures place a southern limit to some crops, notably oats, which is absent from the Mediterranean lands of Europe where both wheat and barley flourish.

Excluding European Russia and the Mediterranean lands, rainfall is rarely inadequate so that large-scale irrigation is neither necessary nor even desirable; on the other hand rainfall is often excessive and not only controls the variety of crops which can be grown in economic competition with more sunny lands but necessitates constant attention to drainage.

England and Wales illustrate the general position very well. Where the rainfall is less than thirty inches a year, as it is over most of eastern England, arable crops, such as wheat and barley, grow and ripen well. Where the rainfall is between thirty and sixty inches ripening is uncertain, a number of diseases tends to be prevalent, encouraged by the moist climate, and so natural conditions incline to favour grass rather than cereal crops. This applies to most of the lowlands of central and western Britain. It is noticeable that in a dry year the average yield of grain in Britain tends to increase and the yield of hay to decrease ; in a wet year the reverse occurs. Where the rainfall is over sixty inches it can truthfully be described

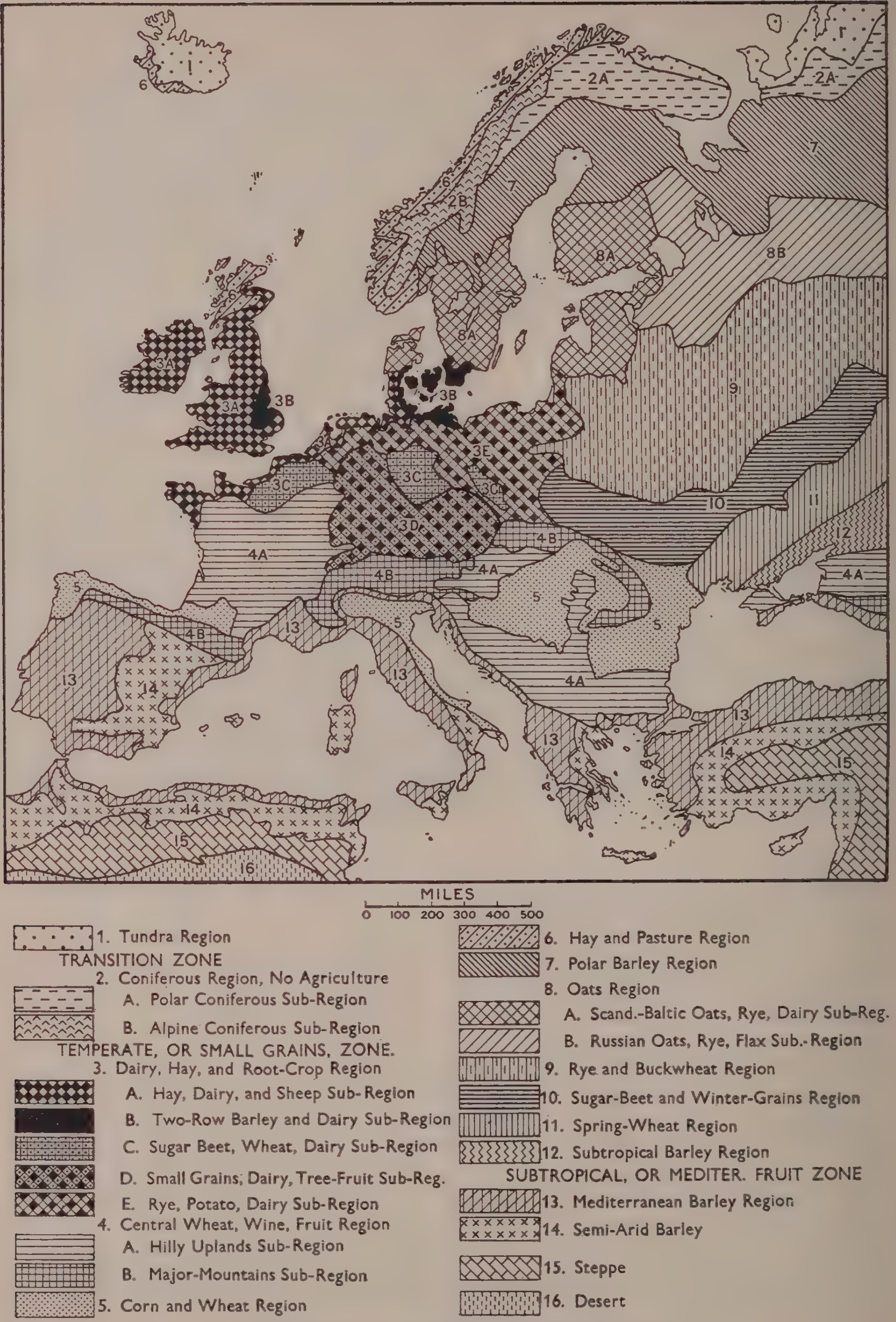
Methods of harvesting: **1.** *In Bulgaria primitive methods of 'treading out the corn' by oxen are still followed.* **2.** *Yugoslavia: in the cool, damp mountain climate of the eastern Alps hay and corn must be dried on racks. This photograph was taken near Bled.* **3.** *Parts of Finland, too, have a cool damp climate and at Rovaniemi on the Arctic Circle every scrap of hay is carefully dried.* **4.** *Near Kilopeo, also in Finland, the farms are in forest clearings and the reaping of the polar barley or oats is done by hand.* **5.** *Where reaping is still largely by hand and harvesting is a family affair, as in Bulgaria, three or four families share the midday meal*

Professor Bataklier **5**

as excessive; constant attention to drainage is needed to counteract acid conditions of soil and farming of any sort is often difficult.

The various climatic elements have been used to distinguish a number of 'climatic regions' in Europe. Some classifications are based on a mathematical analysis of temperature and rainfall (*e.g.* Köppen's and Thornthwaite's systems), others use rather the resulting natural vegetation. Some authors have carried this further and have distinguished 'Agricultural Regions'. These, while they are determined by prevailing climatic conditions, are defined by reference to the crops actually grown or possible.

Before examining these agricultural regions reference must be made to limiting factors other than climate. Broadly speaking, the major regions are determined by climate; within these, elevation and physical features generally play an important part. In so far as increased elevation results in a lowering of temperature (to the extent of one degree Fahrenheit for each 300 feet), ascent in a mountain area is equivalent to movement over lowland northwards and a mountain-top may resemble in climatic conditions an outlier of a climatic type found normally further north. At the same time increasing rainfall is normally associated with increasing elevation, and this, combined with a rarefaction of the air, gives certain unique features to elevated regions. In Britain the upward limit of cultivation may be anything from about 600 feet—or even less—to 1500 feet or more, but is commonly reached at about 800 or 1000 feet, above which moorland conditions prevail. If anyone is interested in the story of a determined attempt, extended over nearly a hundred years and backed by un-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MILES
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1. Tundra Region
TRANSITION ZONE
2. Coniferous Region, No Agriculture
A. Polar Coniferous Sub-Region
B. Alpine Coniferous Sub-Region
TEMPERATE, OR SMALL GRAINS, ZONE.
3. Dairy, Hay, and Root-Crop Region
A. Hay, Dairy, and Sheep Sub-Region
B. Two-Row Barley and Dairy Sub-Region
C. Sugar Beet, Wheat, Dairy Sub-Region
D. Small Grains, Dairy, Tree-Fruit Sub-Reg.
E. Rye, Potato, Dairy Sub-Region
4. Central Wheat, Wine, Fruit Region
A. Hilly Uplands Sub-Region
B. Major-Mountains Sub-Region
5. Corn and Wheat Region
6. Hay and Pasture Region
7. Polar Barley Region
8. Oats Region
A. Scand.-Baltic Oats, Rye, Dairy Sub-Reg.
B. Russian Oats, Rye, Flax Sub.-Region
9. Rye and Buckwheat Region
10. Sugar-Beet and Winter-Grains Region
11. Spring-Wheat Region
12. Subtropical Barley Region
SUBTROPICAL, OR MEDITER. FRUIT ZONE
13. Mediterranean Barley Region
14. Semi-Arid Barley
15. Steppe
16. Desert

Olof Jonasson's Agricultural Regions of Europe limited capital, to overcome disadvantages of climate and elevation, they should read Dr C. S. Orwin's *Reclamation of Exmoor Forest*—with nature the complete victor in the end.

Within the major climatic regions soil plays a dominant part, and it is largely owing to poverty of soil that rye, 'the poor relation', takes the place of wheat over large areas of continental Europe.

One of the most elaborate and complete schemes of Agricultural Regions in Europe is that drawn up by Olof Jonasson of the University of Stockholm (*Economic Geography*, Vols. I-II). Jonasson's regions may be generalized in various ways, and it is instructive to note the summary made by W. O. Blanchard and S. S. Visher, in their *Economic Geography of Europe*, who found that if one takes the dominant grains, Europe, excluding Britain and Russia, falls into a series of roughly parallel belts dominated (from north to south) by hay with no grains, polar barley, oats, rye, winter wheat and sugar beet, winter wheat, maize and Mediterranean (or subtropical) wheat and barley. This generalization does serve to concentrate attention on the change in the dominant grain as one passes southwards through Europe.

The rather more elaborate summary made by Jonasson himself brings out the following regions (they are shown in the map opposite):

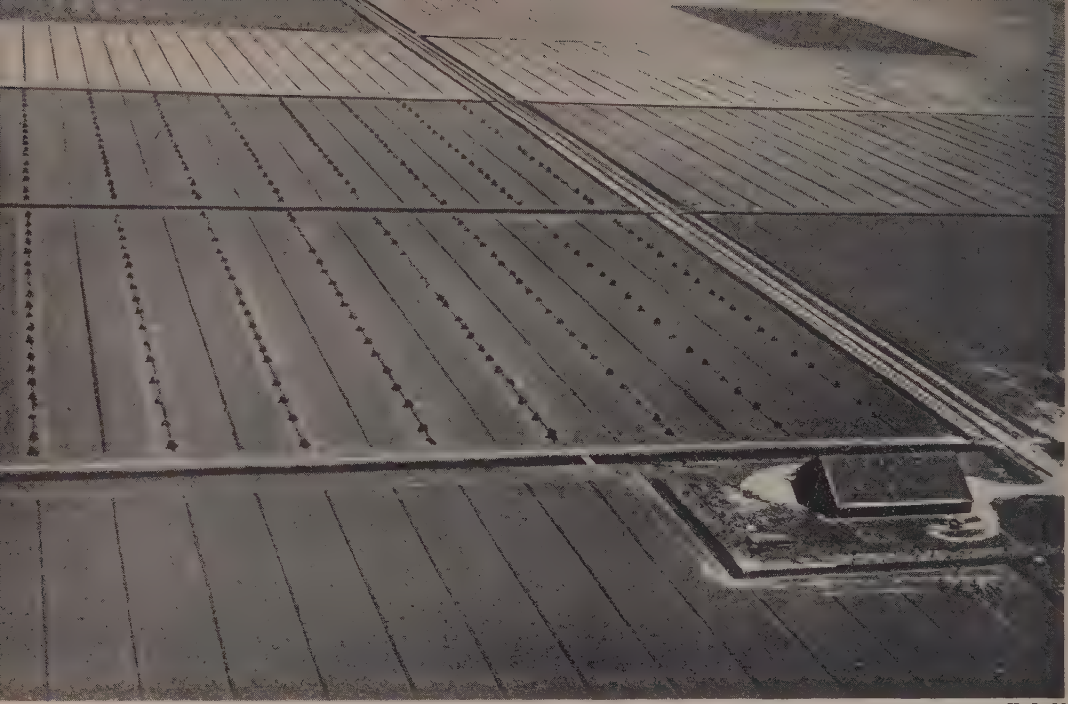
1. The Tundra Region. No agriculture, the 'cold desert death zone' into which nearly all food must be brought. Most of Iceland and the extreme north of Sweden and Finland are included.
2. The Coniferous Forest Region. No agriculture. Includes the central mountain belt of Norway and Sweden.
3. The Dairying, Hay and Root Crop Region. This is shown by Jonasson to embrace the whole of the British Isles, the northern strip of France, Belgium and Holland, much of Denmark, practically the whole of Germany, the Czech plateau and the western half of Poland. As a major region it serves to emphasize certain common features between the agriculture of Britain and her Continental neighbours, but the five sub-regions serve to mark the differences:
    - (*a*) Hay, Dairying and Sheep—most of the British Isles except East Anglia; Brittany, western Denmark.
    - (*b*) Barley with Dairying—eastern Denmark, East Anglia.
    - (*c*) Sugar beet, Wheat, Dairying—northern France, Belgium, central Germany, part of Bohemia.
    - (*d*) Small Grains, Dairying, Tree-fruit—southern Germany.
    - (*e*) Rye, Potatoes and Dairying—north German plain and Poland.
4. The Central Wheat, Wine and Fruit Region. This stretches as a belt embracing most of France across to Austria, Yugoslavia and Bulgaria with a mountain sub-region embracing the Alps and Carpathians.
5. The Maize-Wheat Region. This includes several detached areas, coinciding roughly with the maximum maize-producing areas of Europe: (*a*) Rumania, (*b*) Hungarian Plain, (*c*) North Italian Plain, (*d*) south-western France and north-western Spain.
6. The Hay-Pasture Region. This includes the mild but moist coastlands of Norway and Scotland where climatic conditions are against any grain assuming serious importance.
7. The Polar Barley Region. In central and northern Sweden and the northern half of Finland the scattered clearings in the Coniferous Forests have hay crops and limited crops of barley.
8. The Oats Region. This covers northern Denmark, nearly all of southern Sweden, southern Finland, Estonia and Latvia—all lands with summers too short and cool for wheat.
9. The Rye and Buckwheat Region. This embraces eastern Poland and Lithuania and extends into Russia.
10. The Sugar Beet and Winter Wheat Region. Southern Poland and the Polish Ukraine.
11. The Spring Wheat Region is the Black Earth Belt of Russia and does not extend into the remainder of Europe.
12. The Russian Barley Region.

13, 14. The Mediterranean Regions:
- 13*a*. Humid or Coastal with citrus fruit, wine and wheat, in Portugal, south-western Spain and coastal Italy and Greece.
- 13*b*. Sub-humid or interior with wheat and steppe-like pasture, in the heart of Spain, Apennines of Italy and the heart of the Balkans.
- 14. Semi-arid barley, wheat, olives and pasture in eastern Spain, Sardinia and the driest parts of Italy, and eastern Greece.

Generally speaking, the agricultural regions enumerated are determined primarily by natural conditions of climate, topography and soil, but within them the concentration on certain crops or types of farming is the result of deliberate choice or policy or, it may be, of historical causes. Thus the emphasis on sugar-beet in continental Europe long before this crop was seriously considered in Britain and, on the other hand, the emphasis on sheep in Britain are by no means explicable on a purely physical basis.

It is the same when one considers the intensity of agriculture. To some measure this reflects favourable physical conditions; to some extent local needs or initiative, especially the actual standard of efficiency of farming; to some extent deliberate policy.

On a broad scale Ellsworth Huntingdon



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Methods of today: an aerial view of part of the new cornfields in Holland, laid out in rectangles, which a few years ago were covered by the waters of the Zuyder Zee. The great barn is ready for the first crop and hidden on the far side of it is the modest farmhouse. In the lower picture a small patch of land in the dry south of Portugal has been made fertile by irrigation from a well

L. D. Stamp

in his book *Europe* (New York, 1935), written in collaboration with S. Van Valkenburg, has shown the especially favourable conditions which prevail in the countries abutting on the southern North Sea. He has calculated the actual productivity of the land by taking the yield per acre of eight widely raised crops (wheat, rye, barley, oats, maize, potatoes, sugar-beet and hay). If the average for Europe is represented as 100, then Belgium = 179; Holland = 170; Denmark = 168; Switzerland = 155; England and Wales = 146; Sweden = 128; Germany = 127; Czechoslovakia = 117; France = 105. Hungary is 102, but all the other countries of southern, south-eastern and eastern Europe are below 100.

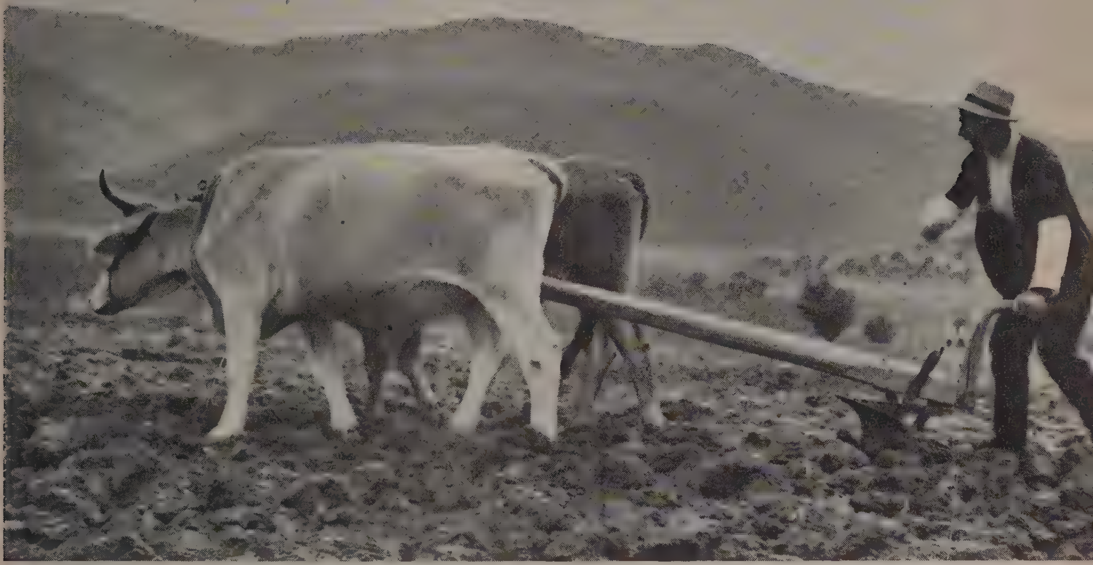
Much the same result is obtained if one uses average percentage of departure from normal yields, *i.e.* reliability of the harvest.

Huntingdon used the seven years 1927–33 and found England and Wales with the greatest reliability, followed closely by Germany and Belgium. Least reliable are the Balkan lands, the Mediterranean countries, eastern and northern Europe.

These particular studies have their lesson for Britain—that the natural advantages for agriculture possessed by eastern and south-eastern England are not surpassed by any continental country.

Another measure of the intensity of farming is average income per man in agriculture—which gives much the same result. In 1929 it was highest in Belgium and Denmark with Britain, Holland and Germany next.

Turning now to more local consideration, it was Jonasson also who claimed to be able



Geographical Publications

In the Balkans traditional ways are still followed: (above) *a simple plough drawn by a pair of bullocks seen against a background of the Balkan mountains.* (Below) *The Matkov Valley, near the borders of Slovenia and Austria, in the mountains of Central Europe, where the fields of mountain barley can often be reaped only by hand*

L. D. Stamp

to distinguish seven 'zones of production' round each large urban centre:

- I. Horticulture.
  - Zone 1. Greenhouses and floriculture.
  - Zone 2. Market gardening—fruit and vegetables.
- II. Intensive Agriculture with Intensive Dairying.
  - Zone 3. Dairy products, fat cattle and sheep, forage crops.
  - Zone 4. General farming—grain, hay, livestock.
- III. Extensive Agriculture.
  - Zone 5. Bread cereals.
- IV. Extensive Pasture.
  - Zone 6. Rearing of cattle, horses and sheep.
- V. Forest Culture.
  - Zone 7. Peripheral areas, forests.

It is clear that these 'zones' are in the main the result of the stimulus afforded by a large central market and are closely related with transport facilities to supply that market. In any given case it may be rare to find all seven zones and there is overlapping of the 'spheres of interest' of great urban agglomerations; but this scheme does serve to illustrate the overriding influence of proximity to markets. The general arrangement can be traced in Britain.

The general pre-war position as to grain is well known in that only the countries of south-eastern Europe—Hungary, Rumania, Yugoslavia and Bulgaria—had a surplus of grain for export. It is not always realized, however, that more than half the total consumption of grain had to be imported in Switzerland, Holland, Britain, Norway, Belgium and Denmark, and that in the two first named it was something like three-quarters. This means, of course, that the specialized agricultural production of dairy produce from

Sir John Russell

L. D. Stamp

Old and new, rich and poor in Poland. (Above) *The noble residence of a progressive landowner in eastern Poland (he is now a refugee) who did much through his prize cattle to improve local stocks.* (*Left*) *The effect of a rising standard of living among peasant farmers in southern Poland before the war—this new cottage near Krakow was grafted onto the old*

Denmark and Holland was based very largely on an import of cheap grain. To a considerable extent the farming of such countries is really a processing industry, sometimes almost independent of the actual soil of the country. Cheap food is imported and is later exported in the form of valuable specialized products—bacon, butter, cheese, eggs.

This very brief sketch should serve to emphasize the need for a careful and precise investigation into the physical factors which control the possible areas of production of all agricultural commodities in Europe and the delimitation of agricultural regions, each of which will have its own problems more or less independently of political boundaries.

There are some areas where grain production is impossible and where the rehabilitation of agriculture must depend on the import of the bulk of the needs. Into this category come Norway and Finland and to a considerable extent Sweden and Denmark.

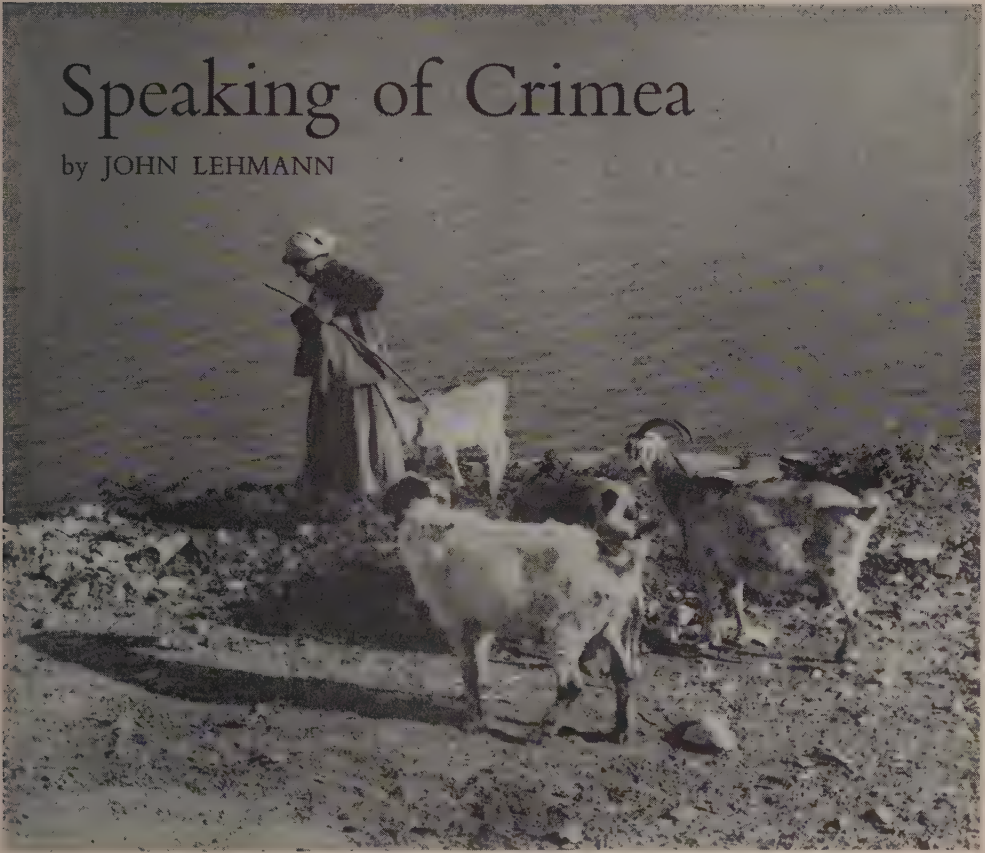
There are other areas primarily suited to grain production, but where, in pre-war years, for reasons sometimes of climatic but often of inadequacy of social, economic and technical organization, the intensity of agricultural production remained low. The countries of south-western Europe fall into this category; so does Poland.

There are other areas where the pre-war character of agricultural production bore little relationship to inherent natural advantages and was the result of definite Government policy. The supreme example is Denmark, but the statement is to a considerable extent true of Belgium and Holland. There are here two considerations: (*a*) how far specialized types of agriculture (*e.g.* dairying and bacon production based essentially on imported feeding stuffs) can or should be built up elsewhere as a measure of social and economic reconstruction, and (*b*) how far the rehabilitation of agriculture in the countries named will follow new lines rather than the old (*e.g.* the resuscitation or otherwise of the Danish bacon industry for the British market).

The emphasis given above has been on the direct vegetable products of the soil. Europe will need better agricultural implements, a generally improved technique of farming in many areas, and in some cases at least improved strains of seed. The position with livestock may be entirely different in that large numbers will have been killed off and the quality of many of the remainder impaired by indifferent feeding and inbreeding. It will take longer to rebuild the livestock industries, but recent advances in artificial insemination will play a large part. When it is realized that one prize ram, kept in England, can be used with the aid of swift air transport to carry the sperm to inseminate at least 15,000 ewes as far away as Poland, the possibilities of a rapid upgrading of stock are clearly enormous.

Speaking of Crimea

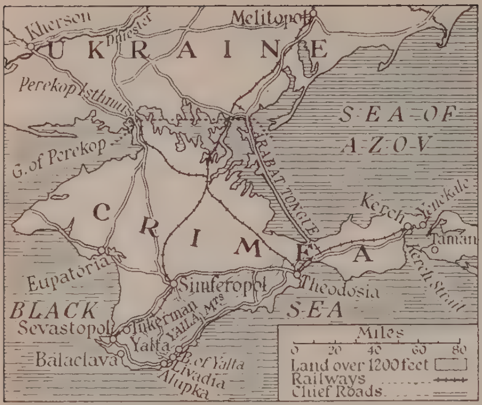
by JOHN LEHMANN



What images does the word Crimea call up today, when we read of great battles raging there between the Germans and our Russian allies? An inefficient Victorian War Office? The Lady of the Lamp? In this article Mr Lehmann, already known to our readers as an authority on the Caucasus and the countries of the Black Sea, describes, against their historical background, some of the contrasts he found a few years ago between the picture the average educated Englishman has formed for himself and the real Crimea of Soviet civilization

It was difficult, as we read the dispatches this winter from the Eastern Front, to imagine that the Crimea, the scene of such bitterly contested engagements between the Germans and the Russians, is one of the loveliest holiday playgrounds in the whole of Europe. Hearing of the heroic defence of Sevastopol, our minds go back at once to school-book illustrations of wounded and frost-bitten British soldiers, the 'Lady of the Lamp', the Charge of the Light Brigade; and we picture the Crimea as an icy region scarred by endless warfare. Actually the southern coast has a Riviera climate, and the slopes that lead down to the sea are studded with palaces, villas, pavilions, whose white walls and windows glitter among the subtropical fruit trees, the palms and cypresses and flaming bushes of flowers; and all of them, once the favourite resorts of the old aristocracy, have been converted into rest-homes and hospitals by the Soviet Government.

Memories of those school-books had lingered obstinately with me when I made my first



Stanford, London

visit about seven years ago, in spite of the alluring summery posters in the travel bureaux. The discovery of the real Crimea of today was therefore a delightful surprise, from the very first moment when I caught a glimpse from the train window, as I pulled up the blind, of the little red-roofed Tartar villages and the goats wandering in the meadow wildflowers round them. A moment later, in a dip of the hills, we saw the turquoise blue morning sea; my companion, who had never been near any stretch of water bigger than the Salzkammergut Lakes in his life, was completely spellbound.

Sevastopol itself, where we left the railway that had taken us over the Perekop Isthmus from the Ukraine, had the familiar atmosphere of so many Russian provincial towns where we had already stayed, dishevelled and radiantly eager at the same time; the thickly clustering bloom of the acacia avenues reached in festoons of fresh white and green to the edge of the balconies where dilapidated 19th-century house-fronts and modern concrete clubs and offices were ranged side by side; but a new depth and richness was added by the glimpses of blue everywhere between the blocks, the salty smell of the sea carried on sudden warm gusts of wind, and the white-uniformed sailors swarming through the streets.

Visitors from abroad were not encouraged to stay too long in that important naval base. Disgruntled though I was then at not being allowed to linger and let the life of the place slowly soak through me, I can admire at this distance the technique of the Russian girl officially detailed to look after us. Her attitude was one of being bored stiff by having to spend her days in such a dreary hole. It was useless for us to look for anything of interest, any charm of local colour, there was nothing, she cried, absolutely nothing to do or see. She laughed all the time with a cynical abandon: what a fool she was to have let herself in for such a job. We were the lucky ones, off that afternoon to sunny, carefree Yalta. We sat up: why, this was preposterous, we had planned to stay at least three days! She dismissed our protest with a sweeping gesture of her hand, and another ringing laugh: quite impossible! She had already ordered the most comfortable car in the town for us, the most reliable chauffeur. She would never forgive herself if she let us delay. We might even commit suicide through sheer boredom, and then what would the authorities say to her?

As a special concession, she agreed that the famous 'Panorama' of the Crimean War might be of some small interest to us. She would take us up the hill before lunch, if we liked, to give it a quick once-over.

The Malakhoff Hill, where this tourist's shrine had been constructed, was the site of the famous fort, the key to the defences of Sevastopol, which the French troops stormed and carried in September 1855, after a resistance that had been more stubborn and more protracted than the Allied commanders had conceived possible. Those long-past agonies evaded our imagination that hot May morning, as we stood on the naked, dazzling hilltop with a company of sailors sunning themselves on the slope just below us and singing to a balalaika; but gradually, while the Russian girl and some friends she had brought with her pointed out this spot famous for a heroic stand and that for an ill-starred storming party, the history we had read so often and seen so crudely but dramatically pictured in old prints and paintings began to take on a new and more living shape before us.

What a futile episode it was, that war which has printed itself so deeply on our national consciousness. When all is said and done, it did little except cause enormous suffering to the soldiers who took part. No major problem of international politics was settled, though indirectly it brought about that disastrous isolation of Austria which was the beginning of the end for the Habsburg Monarchy. The only political result that can be counted a gain was that the lower reaches of the Danube were opened to international navigation, a state of affairs which continued (except during the period of occupation by the Central Powers between 1914 and 1918) right down to the outbreak of the present war. And the only result that can be said in any way to atone for the

Rischgitz Studios

The defence of Sevastopol was as obstinate during the Crimean War (1854-5) as in the present campaign. The Russians had to contend with appalling difficulties in supplying their garrison, and the losses they suffered in this process seriously weakened their military power for many years. These two pictures are from contemporary prints

Rischgitz Studios

Paul Popper

Paul Popper

(Left) *On the quay at Yalta, on the southern coast of the Crimea, one of the most popular holiday resorts in the Soviet Union.* (Right) *The coastal road from the mountains down to Yalta*

muddle and slaughter, the hideous deaths from plague and all the diseases of untended wounds, was indirect: through the enterprise and energy of one woman of genius, Florence Nightingale, a revolution took place in nursing and the care of wounded soldiers.

The war arose, essentially, out of a clash of the imperial interests of Russia and Britain. The then Tsar, the reactionary Nicholas I, was obsessed by the historic dream of his dynasty, the extension of Russian power out of the confining trap of the Black Sea into the freer waters of the Mediterranean: the recapture of Constantinople for Christianity and the emancipation of the Sultan's orthodox Slav subjects in the Balkans being the surface aim that inspired and justified. Britain, always on guard to see that the armies of the Romanoffs were kept well away from the outer bulwarks of her Eastern Empire, sided with the incapable Ottoman Empire in its peril. She was joined by Napoleon III, eager to lead France into a foreign adventure that might appear as an act of vengeance for the humiliations of 1812, and so gain some highly necessary popular support for his régime. If one looks through the pages of *Punch* at the time, one can see that the war was not unpopular in England. It awakened that age-old distrust of Russia which has had such an unfortunate habit of recurring in our history, and did much in the years between 1917 and 1941 to hinder the establishment of cordial relations with the Soviets. It is clear, only too clear, that if it had not been for these confused ambitions and phobias, and the headstrong temperaments of certain of the chief actors on both sides, the original dispute could easily have been settled by diplomacy. The war was unnecessary, its results uncertain.

The capture of Sevastopol, where the Russians had applied the scorched earth policy for which they have again made themselves famous in the present war against the Nazis, meant that the Allies had achieved their main object, which had been to incapacitate the naval forces of their enemy;

Paul Popper

To find the real Tartar Crimea one must go out into the countryside and explore the dusty white roads that wander into the little red-roofed villages surrounded by their vineyards

but as so often and so disastrously happens, passions were now exacerbated, and the English, feeling that they had cut rather a sorry figure in the campaigns in spite of Balaklava and Inkerman, were consumed with the idea of a war to the bitter end. It was Napoleon who, by skilful diplomatic manœuvring, prevented this ominous development, and the Treaty of Paris was signed in 1856. Russia was crippled for the moment; but it was not long before her naval power in the Black Sea revived; and the decay of the Ottoman Empire continued.

Our friend Natasha seemed to relax at last as we reflected on those far-off happenings on the hillside, with the huge horizons of the sea encircling us. She had done her duty to us as visitors and students of her country by taking us up to the Panorama, and had won her point by forcing our aggrieved consent to leaving Sevastopol that very afternoon. She forgot her part for an hour; and as we made our way home again, watching a grey-green warship with the name *Komintern* just decipherable on her bows slide into the deep harbour below, she began to talk of her home in Leningrad, her husband serving in the Red Army, the books she was reading, the hopes she had for the future. Ideological struggles, the political preoccupations of the moment dropped away; it was an authentic Russian voice, a voice known so well from a dozen Russian novels of yesterday and today, speaking from that deeper, so slowly changing level of a people's spiritual life.

We set off across a wide valley with mountains rising sharply in the south and east. It was afternoon; we had lunched well after our expedition, with plenty of red Crimean wine to wash tender Crimean chicken down; the sun was hot, and we saw little to interest us in the bare landscape; as the car began to climb the steep slope at the edge of the valley we were nodding in contented drowsiness. It was only when the car came to a sudden stop, and the chauffeur shouted something in Russian at us, that we were jerked into an awareness of the new world that had opened before us. We had reached the top of the pass: in front, the road twisted its way down through terrace after terrace overgrown with blossom-laden shrubs and trees in the full richness of their spring foliage, past dark clumps of cypresses contrasting vividly with the flower-sprinkled patches of meadow at their feet; in the middle of this expanse, so far below that it seemed almost like a perching seagull, a small white moorish building gleamed on a jutting promontory; and beyond that again the cliffs tumbled greenly onward, away to the enormous, silken-still stretch of the indigo sea.

That was my first view of a coast which, more beautiful to my mind than the Bay of Naples or the French Riviera, had been turned in the old days into one of the most exclusive rich men's playgrounds in the world. Round Yalta, the centre of Russian holiday fashion at the time when Tchekov was writing his story *The Lady with the Toy Dog*, the aristocracy and the parvenu industrial magnates built their palaces and villas, pretty enough when viewed from a hazy distance on the cliff-road, but revealing, as one came closer, a hideous medley of styles, a riot of luxurious tastelessness. The Vorontsoff Palace at Alupka in particular, with its famous white stone lions looking out over the beaches, struck me as grotesque, a misbirth of English Gothic Revival out of Moorish architecture. The Tsar's own Palace of Livadia was one of the few buildings that seemed to have any real dignity or charm. But what one remembers of all these extraordinary homes is not their ugliness, their evocation of a fantastic past, but the beauty of nature in which they were set and the modern use to which they have been put. My most vivid impression of Livadia is of the laburnum, the purple-blossomed judas trees, the exotic shrubs and the rose-beds in their first bloom in that brilliant week of May; and of a factory worker from Kiev, a red bandana round her head, sitting on one of the carved stone benches, an engine-driver from the Volga reading a copy of *Pravda* under the shade of bushes where armed guards were once concealed by Nicholas Romanoff to anticipate the ever-dreaded assassination. Every one of those luxury villas has been turned into a rest-home or sanatorium, and workers, intellectuals, peasants from all corners of the Soviet Union assemble there during the spring and summer months. Each big trade union controls one for the special use of its members, and other professional organizations, the writers and artists for instance, are represented as well. In the

The atmosphere seems at first like that of any Mediterranean country. The little children race past one barefooted, flashing huge grins from sun-tanned cheeks, the goats wander in and out of the yards. But there is a difference, a difference that comes from that new spirit which is bringing education, modern technique, political awareness to the smallest and most backward peoples of the Soviet Union

Paul Popper

clear, cool evenings all the convalescents and holiday-makers seemed to gather on the front at Yalta: they were an amazing spectacle, wandering up and down in their white sun-clothes, flowers in their hands or their button-holes, with that characteristic smiling openness of expression which has haunted so many travellers to the Soviet Union. I wonder what Tchekov would say if he could suddenly see his Yalta again today,—and when I say today I am not thinking of this actual moment in which German military uniforms and German tanks dominate the scene, for that is only a tragic interlude which will soon come to an end. Only the sea remains the same: that sea the colour of which appears to be changing all the time, a rich blue on calm days, deeper than the blue of a kingfisher's wing, not so deep as a swallow's; and when the wind rises and the tips of the waves are spattered with foam-flecks, deep blue like a damson, with floating patches of darkest green.

Yalta, for all its fascination, is not the real Crimea any more than Sevastopol is. To find that, the land that was one of the last independent Khanates in all Russia, one must go out into the countryside and explore the dusty white lanes that wander into the little Tartar settlements surrounded by their vineyards. The atmosphere seems at first like any Mediterranean country; the little children race past one barefoot flashing huge grins from sun-tanned cheeks, the goats wander in and out of the yards, washing steams from narrow wooden balconies. But there is a difference nevertheless, a difference that comes from that new spirit which is bringing education, modern technique, and political awareness to the smallest and most backward peoples of the Union. Schools have been built where the boys and girls, no longer barefoot or in happy-go-lucky tatters but in smart Pioneer or Komsomol uniform, have been learning not only of their own particular cultural heritage, but also what every child in every Soviet Republic has been taught: the basic principles of their socialist civilization and the necessity of defending it with arms against Fascist and other imperial adventurers. It was not pleasant, I must confess, to see diagrams of tanks and machine-guns on the classroom walls, but such preparations are standing them in good stead today.

The Soviets have built some new sanatoriums high up over the Bay of Yalta; the one they are most proud of is in Dolossé, for tubercular patients, thickly surrounded by pines, the aromatic, exhilarating smell of

Pictorial Press

The Soviets are very proud of the sanatoria they have built or adapted from private villas in the Crimea. (Above) *The Kurpatz Sanatorium.* (Below) *The Yalta Sanatorium for tubercular children*

Paul Popper

Pictorial Press

The waterfront at Yalta, where on cool evenings of spring all the convalescents and holiday-makers gather to take the air and admire the changing colours of the sea

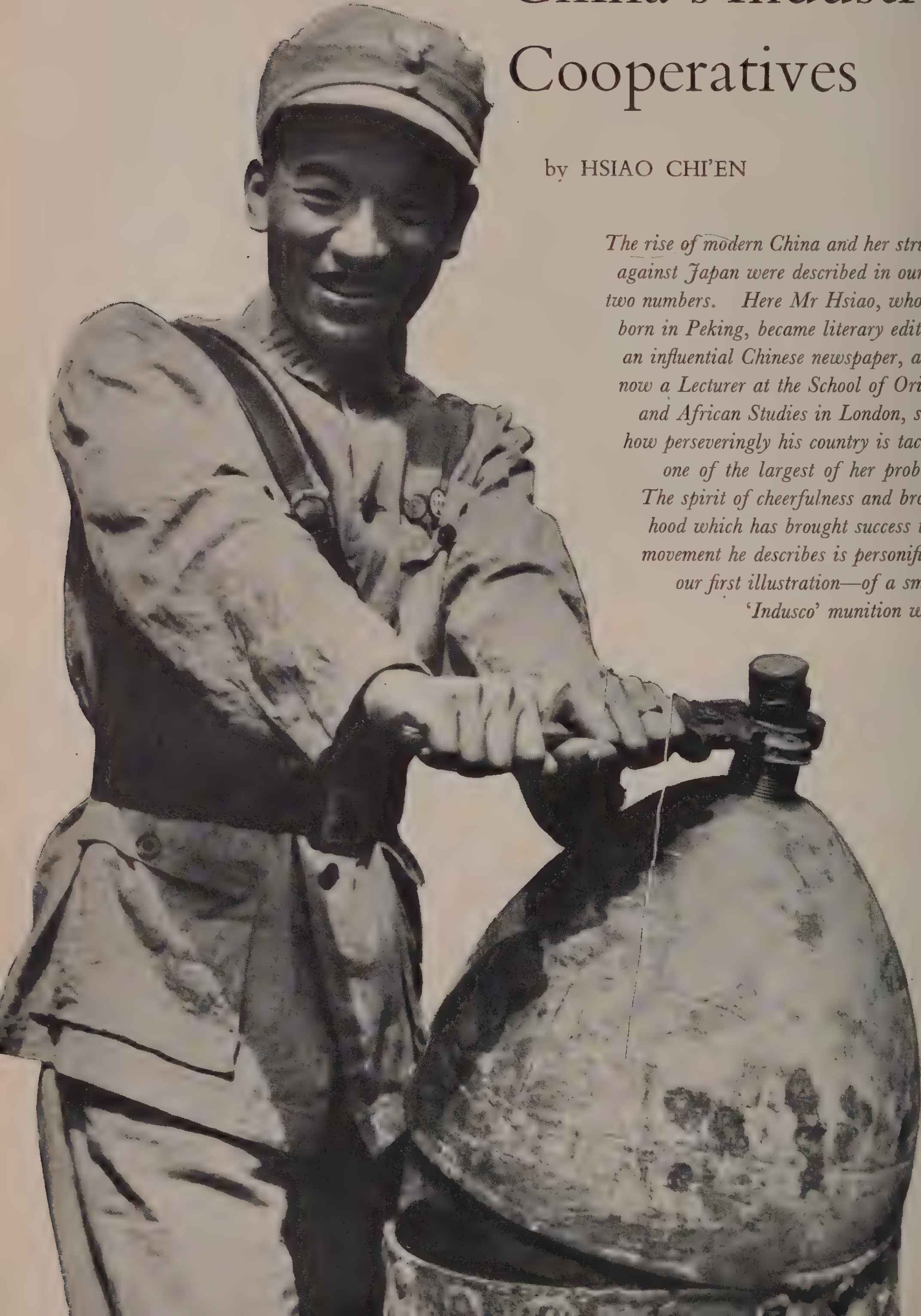
which fills the keen air. The same day we visited Dolossé we were taken by our Russian friends to Massandra to admire the huge state wine-cellars. Crimean wines are mostly rather sweet to our Western taste, sweeter than the best Caucasian wines, but they are pleasant enough if one is in festive mood, and decidedly heady. That afternoon at any rate, after tasting a very large number of vintages, we found ourselves cracking the silliest jokes in a mixture of broken Russian and English, laughing a great deal as we took unsteady photographs of one another astride enormous wine-barrels, and swinging down the hills homewards with songs on our lips that startled the more sober passers-by.

The Crimea was once more the scene of bloody fighting in the Civil War that followed the Revolution of 1917. One rock in particular, rising cruelly above the flower-tangled ruins of Oreanda, was pointed out to me: from its height captured partisans of the Bolsheviks were hurled to death by Denikin's troops before they retreated. There were other incidents, too, that were long remembered: it was in the streets of Sevastopol that French sailors sent to aid the Whites had mutinied. Intervention proved an unlucky investment for the Western Powers, and when the folly was at last abandoned the Soviets were able to consolidate their position in the Crimea as elsewhere, and to make this smiling, all-Union holiday land out of it. At the same time they gave it that wise measure of cultural and administrative independence which is implied in the status of Autonomous Soviet Socialist Republic. But it was clear, even then, they were taking no chances for the future. The epic defence of Sevastopol during the past winter proved how thorough their defence plans there had been. Everywhere one had the impression of alertness, of preparing for a blow it was felt would sooner or later be delivered. Was not Japan advancing in Asia? Was not Hitler screaming abuse at their leaders as criminals? The watchfulness of the Soviets abated as little as the forest fire we saw from our balcony, far up in the mountains, steadily burning day and night.

China's Industrial Cooperatives

by HSIAO CHI'EN

The rise of modern China and her struggle against Japan were described in our last two numbers. Here Mr Hsiao, who was born in Peking, became literary editor of an influential Chinese newspaper, and is now a Lecturer at the School of Oriental and African Studies in London, shows how perseveringly his country is tackling one of the largest of her problems. The spirit of cheerfulness and brotherhood which has brought success to the movement he describes is personified in our first illustration—of a smiling 'Indusco' munition worker



Pictorial Press

The new Industrial Cooperative movement in China, called 'Indusco' for short, began as an answer to the overwhelming refugee problem created by the war against Japan. The coastal provinces had to be evacuated in the face of the enemy's invasion, and they happened to be the most densely populated part of China. According to the estimate made in 1939, 15,000,000 refugees have trekked from the invaded provinces into Free China. To feed and house this large number of people without further straining the already very heavy burden on the nation's finance was all but impossible. It was to meet this need that the Indusco was created. Later, as the movement developed with amazing rapidity, it turned out to be an economic weapon as important as the military resistance for the preservation of China's freedom.

After the fall of Canton and Hankow in 1938, the war between China and Japan had in a military sense become a stalemate. Japan, who had always been fearful of an industrialized China, took the opportunity to destroy every factory she could attack, with the result that ninety per cent of China's industries were wiped out. Japan's next step was completely to blockade China's coast and, by exercising pressure on Hong Kong and Indo-China, to cut off Chinese imports and exports, thus starving the inhabitants in Free China and depriving them of weapons with which to fight. At the same time she tried to drain China's financial reserves by smuggling cheap goods into Free China.

Besides absorbing the unemployed, skilled and otherwise, the Indusco has helped to counteract Japan's sinister plans for an 'East Asia Economic Bloc', by creating what amounts to self-sufficiency in civilian consumed goods. Consequently it has been possible to use the strictly limited routes to the outside world exclusively for military transportation.

The first Indusco was established in Paochi (Precious Chicken), a tiny village in Shensi, in the summer of 1938. It was started by nine illiterate blacksmiths with a capital of $140 and tools worth $36. A loan of $1200 was obtained from the Government, which was paid back with 6 per cent interest within fourteen months, while the movement mushroomed all over Free China. Then it spread to the rear of the enemy as far as the coastal provinces of Fukien and Kwantung. By the end of the first year over 4000 cooperative units were established with an output worth $825,950 and a membership of over 40,000. Hosiery, soap and candles, cloth, paper and rice-milling machines were manufactured for civilians, and hand grenades, sub-machine guns, automatic rifles and 400,000 woollen blankets for the troops. Far away in Kansu nineteen gold-washing societies were organized, and right on the coast of Fukien a machine shop was established making oil presses and soap-cutters. The Japanese did not fail to realize the importance of this economic guerilla force. Mr Hsu Sing-loh, the first chairman of the movement, a well-known banker in Shanghai, where the idea of the Indusco was first thought of, was soon assassinated. Japanese bombers were despatched to the village of Paochi to destroy the first workshop of the nine blacksmiths. The shop was duly destroyed, but one of the greatest advantages of this industry in small units is its invulnerability to air raids.

These industrial units are mobile and are organized in three 'lines'. The front line is in the war zones and places behind the Japanese lines and consists of over 200 units making light munitions, medical supplies and other things to ease the life of both the regular army and the guerilla forces. Formerly these things were all sent from the great hinterland. The cost of transport was four times greater than the value of the material carried and often, owing to military action, delivery was late. Much suffering to soldiers, especially the wounded, was mitigated when supplies were within easy reach. The 1000 or more units of the second line are spread over provinces of military importance, such as Hunan, Kwangsi and Kweichow. The main development, however, lies in the rear, in the north-western provinces which alone are five times bigger than France. Larger enterprises, such as cotton plantations and spinning and weaving industries, grew up in this area.

As the Indusco exists to provide for both military and civilian needs, the variety of its manufactures is indeed wide. With local silica sand it makes glass, ceramic and thermos bottles. Dr Y. C. Yang, formerly Dean of the College of Engineering in the North-east University in Manchuria, directs an alcohol distillation plant to provide a substitute for petrol. Oil is pressed from sesame, rape and the famous tung nuts. The leather-tanning units making suitcases and shoes have been specially successful. Two vitally important products are surgical cotton and gauze. Then, the industrial and agricultural implements manufactured are, of course, highly needed.

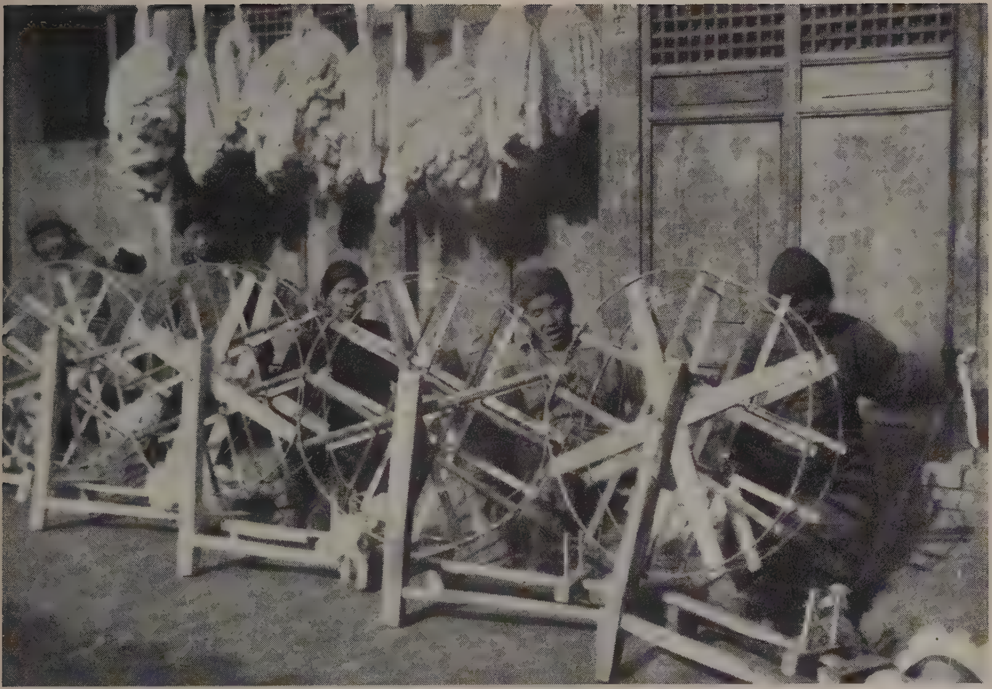
Generally the nature of the locality determines the kind of product. One paper factory with thirty-three workers produces

Pictorial Press

To replace the many large boot and shoe factories destroyed by the Japanese, members of the Cooperative Society have set up groups of cobblers who, as here in the courtyard of a house, transform old motor tyres into soles and heels. A 14-year old boy (left) *holds up an outsize boot to show his trade.* (Opposite) *Old-fashioned spinning wheels called back into service supply yarn of which clothing for Free China's millions is made*

newsprint, stationery and other goods out of the local cotton, flax, straw, wheat stalks, mulberry twigs and barks. It has a monthly output of 130,000 sheets worth $16,000. Having undersold the cheap Japanese paper, it still makes a profit of 25 per cent.

The Indusco is only now going through the early stages of the industrial revolution in Europe, but with surer results. With the large number of refugees, it is not economic to reduce the use of human labour and in any case large factories would provide the Japanese bombers with good targets. But on the whole the tendency is slowly but steadily to industrialize China. The first power plant of 30 kilowatts was started by a young Chinese engineer, C. F. Wu, who gave up a well-paid position as electrical engineer in Shanghai Power House. In the textile industry, a model foot-treadle spin-

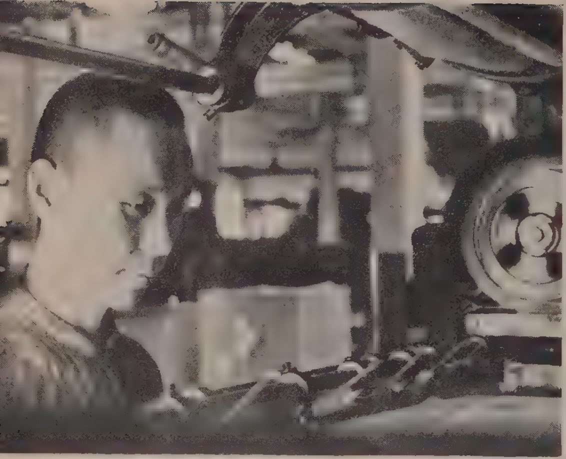


Pictorial Press

ning-wheel was introduced from America and a machine shop in Chengtu has started to make them at the rate of 100 a day costing only $6 apiece. Even more important are the technical schools now established all over Free China. Thousands of Indusco members have been trained and returned to their units to become instructors. Among the Indusco workers there are many technicians trained abroad, such as Mr Lu Kwang Mien, a biochemist of Aberdeen University. In addition to their specialized knowledge, many of these technicians have social and political ideals which help to direct the entire movement towards a healthily industrialized China.

Two problems, which China had tried to solve for years, unsuccessfully, have been tackled by the Indusco; namely, illiteracy and the use of dialect. Now every unit of production is at the same time a unit of mass education. Both men and women, old and young, attend schools and the more advanced are given special technical training. Since members of the Indusco come from all parts of the country, there is much mixing of people who would otherwise never have met. This in itself tends to break down dialects in favour of a common tongue. The Indusco fosters this process by encouraging the singing of patriotic songs in the language of the country. It has been said that individualism is one of the incurable diseases of the Chinese people. The Indusco has shown that the Chinese peasants can organize and enjoy communal life.

One of the characteristics of this movement is the spirit of democracy. All over the Indusco area are slogans such as "One for All and All for One". The sense of duty is particularly stressed. One notice reads: "At the front kill the enemy, in the rear produce goods, register all transactions, balance accounts every day. Be friendly and kind to each other; inside this society all are brothers. There is really no need for any rules, the important thing is to do your duty." True to the tradition of the cooperative movement, the Indusco people have from the first allowed that no individual should hold more than 20 per cent of the total shares. Each member is entitled to only one vote and is allowed to belong to one registered unit. The chairman is elected by all the members. After paying the interest on shares, borrowed capital and the wages and salaries of administrators, proceeds go to reserve funds for emergencies and an extension fund. Any further surplus is allotted to a sinking fund.



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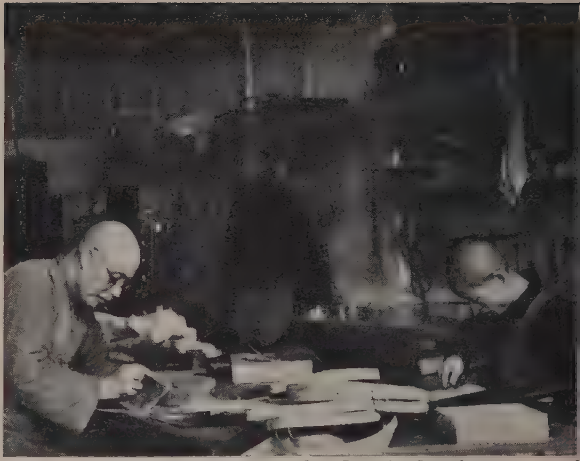
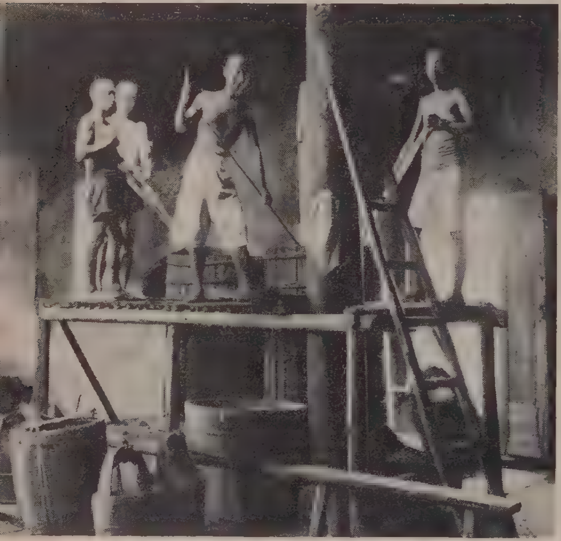


China Campaign Committee **4**



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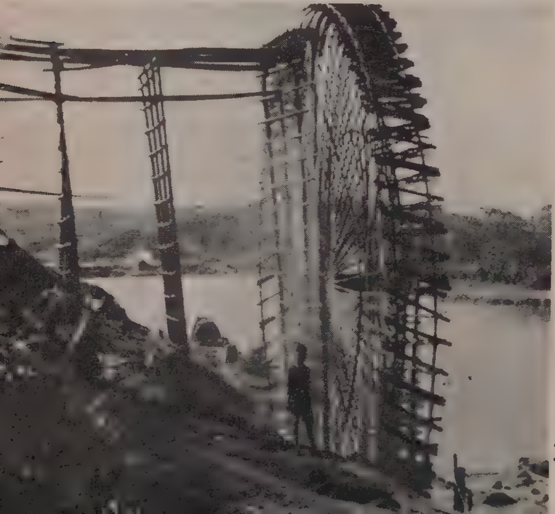


3

Besides absorbing the unemployed, the Indusco has helped to counter Japan's sinister plans for an 'East Asia Economic Bloc' by creating self-sufficiency in civilian goods for the Chinese people. These photographs show some of the Cooperative units at work.

1. *A skilled mechanic making machine tools in a 'shop' established inland, out of reach of enemy bombers, to replace one of the large pre-war factories on the coast*

2. *Industrial workers making the best of primitive equipment*

3. *One of hundreds of ancient water-wheels rejuvenated to provide electric power from the rivers*

4. *Leather goods such as belts, suitcases and shoes being worked at the South-Eastern Headquarters*

5. *Foundry workers on a casting job*

6. *Villagers in North-West China combing home-produced wool to make army blankets*

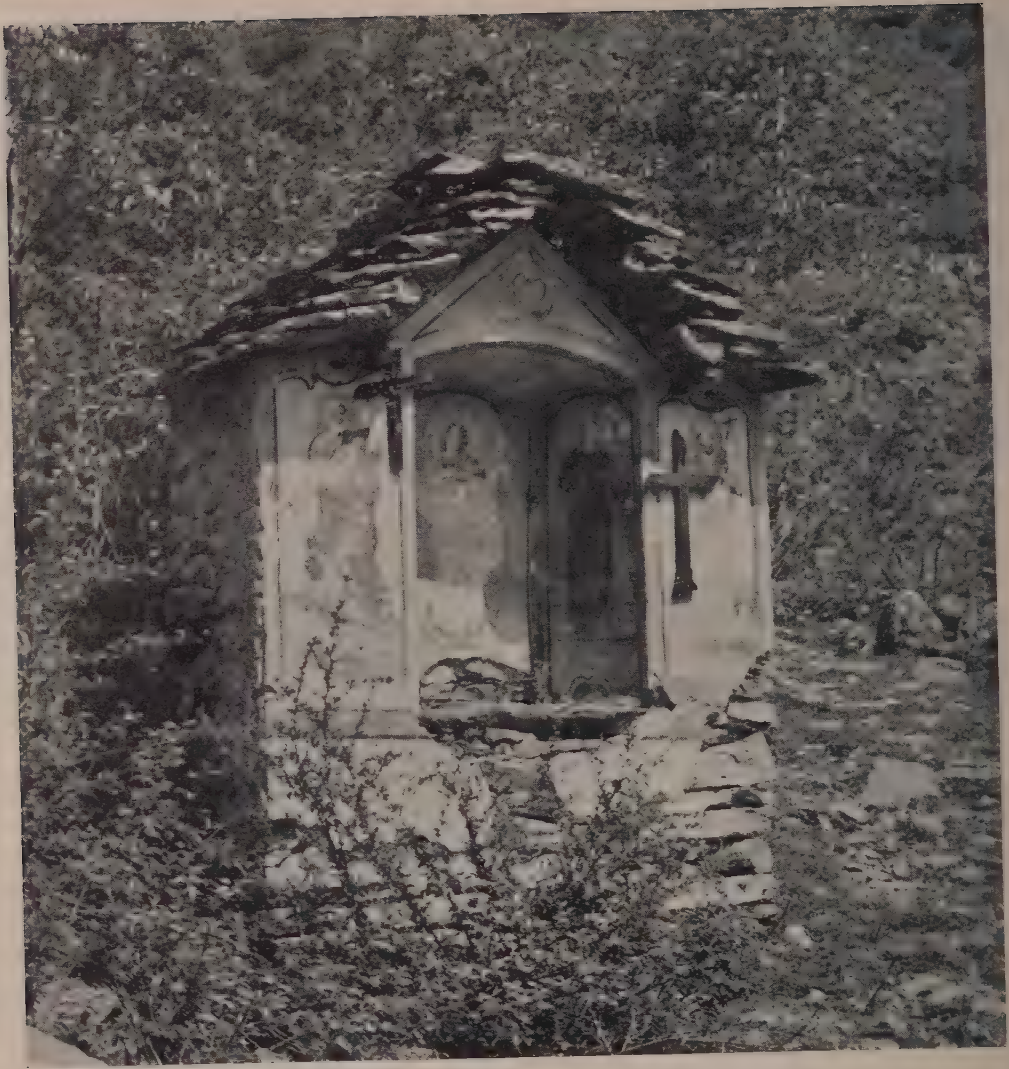
China Campaign Committee **5**

Pictorial Press **6**

As China becomes more industrialized, class distinctions between the worker and the employer are bound to be accentuated. A clash between them might well be a danger to post-war China, for in the past it was usually the extreme poverty of the peasant and the widespread inequality of wealth that led to strife and revolution. The Indusco's solution is to develop production on scientific lines and to spare China the evils of monopoly and class war. One might say that through the Indusco the left wing and the right have found a meeting place.

During the last century China has been too often regarded as a mere field for raw materials which other, more highly industrialized countries could exploit—a situation which crippled China economically. One of Dr Sun Yat-sen's plans for national reconstruction was to invite the investment of foreign capital. This policy has been followed by the national government. In post-war China, such investments will no doubt be even more welcome. The Indusco provides the soundest basis for such investments, for, to begin with, there will be no question of charity or exploitation. All loans received by the Indusco are on a commercial basis.

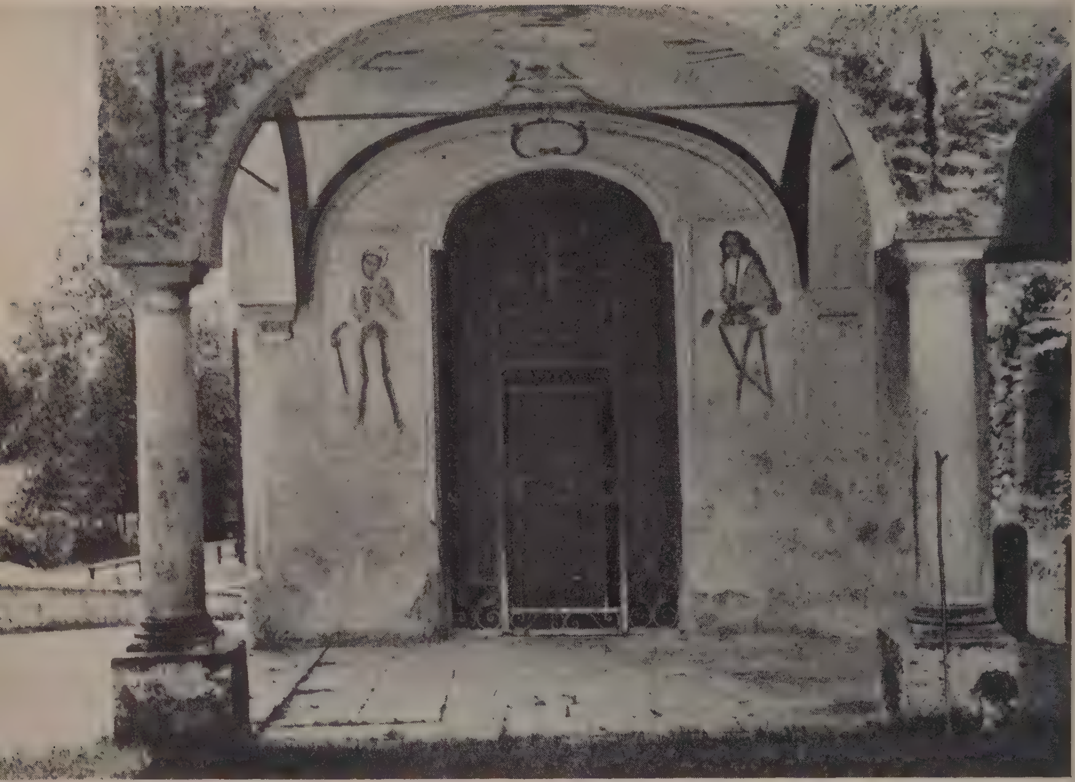
The Indusco owes an immense debt to the support given by Chinese and foreign friends abroad. Since its founding in 1938 over a million Chinese dollars came from outside China. Of the initial $650,000 loan to the front line Indusco, $400,000 came from the Chinese in Manila and Java. Among the ninety-two people who helped in the Philippines to raise funds for the Indusco were British, Americans, French, Filipinos, Indians, Italians and Igorot tribeswomen. The technical adviser to the whole movement is Mr Rewi Alley, a New Zealander who gave up a comfortable job as chief factory inspector in the Shanghai Municipal Council to help fight on China's economic front. In the working of the Indusco one sees the international spirit at its best. Of the seventy members of the Promotion Committees in Chengtu and formerly in Hong Kong and Shanghai, half are British and American and all offer their services voluntarily. Sir Archibald Clark-Kerr, the former British Ambassador to China, and the Rev. Bishop Hall of Hong Kong are two of the many British friends who lent invaluable support to the growth of the movement from the very beginning. In the U.S.A. an American Committee for Chinese Industrial Cooperatives was organized early in 1940 with Admiral Harry E. Yarnell as the chairman of the Executive. Among the promotion directors are Mrs Franklin D. Roosevelt, Mrs Pearl Buck, Owen Lattimore, now adviser to the Chinese Government, and Richard Walsh, the editor of *Asia*. A number of local committees have also been organized in Washington, New York, Boston and Philadelphia. The part played by Britain is significant and the Anglo-Chinese Cooperative Development Society was inaugurated in the House of Commons on June 5, 1939, with four M.P.s as Directors who helped not only in raising loans but also in arranging for the provision of British-made machines. So in China's Indusco we find the true spirit of international brotherhood.



Frescoes in the Valle Maggia

Notes and Photographs by M. V. Morden

When, in the early 16th century, the powerful duchy of Milan ceded Locarno to the Swiss Confederacy, there went with it a heritage of renaissance art in the form of mural paintings which can still be seen in what is now part of the Ticino canton. These first two photographs show examples on, above, a wayside shrine and, opposite, the outside walls of a barn.



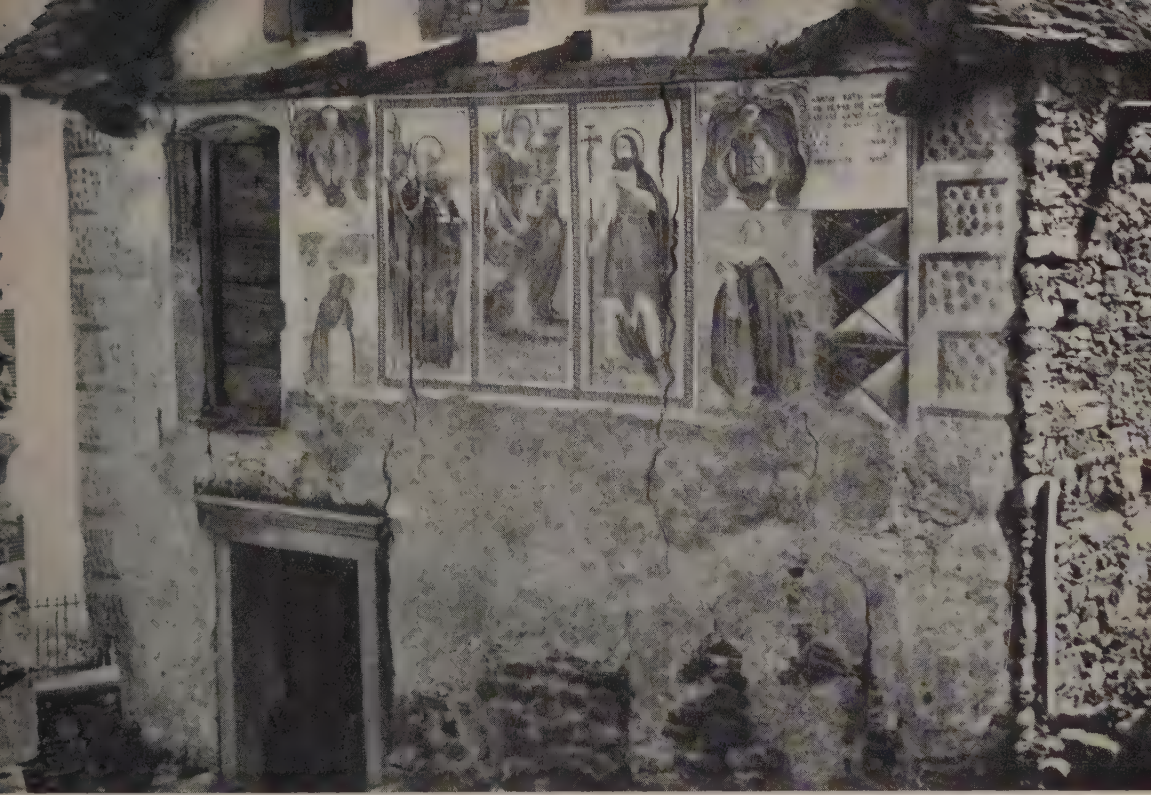
Some are much battered by sun and rain, many have suffered defacement from inconsequent scribblers; but in spite of all the Valle Maggia and its tributary valleys are rich in this form of art.

The frescoes cover both inner and outer walls of the tiny chapels (one of which is shown on the previous page) that stand like milestones along the roads, form landmarks on the steep tracks zigzagging up the mountains, and are dotted over the patchwork of small-holdings that lies around every village.

That the churches are full of them is understandable, for churches are the recognized storehouses of such work. But the peculiar charm of the Valle Maggia is that the walls of the old houses and barns display just as many frescoes as do those of the churches. Some are hidden in villages so small that no road leads to them; away up in the mountains, where at over 4000 feet the silver birch and Spanish chestnut give way to larch and fir and even at midsummer drifts of snow still linger, there are as many wall paintings as are found in the more populated valley below.

The people in this valley seem to have lived dangerously. They died by drowning and by precipitous falls, and many of the shrines were erected either in memory of those who died thus, or in thankfulness for escape from so violent an end.

The skeletons on the walls of the chapel seen above were painted in 1741. On the page opposite is a fresco of St Anthony, on the wall of a barn. The inscription says: "This work I have made myself, Giacomo Martini, to the praise and glory of God. 1713."



The plague which swept over Europe during the 17th century did not miss the valley, and St Rocco and St Sebastian—special protectors against pestilence—are depicted again and again.

Fear that life on earth should be so joyous as to make people unheedful of the next world is inherent in Christian teaching, whether Catholic or Calvinist, and explains the quantity of skulls, skeletons and cross-bones that were drawn over such inscriptions as: "Eben, rifletti tu verrai come son io", "*Look well and reflect, you will come to be where I am*", *or* "Tutti io atterro, e premo nella polvera del sepolcro", "*I strike down all, and press them into the dust of the sepulchre*".

For centuries there had been a constant exodus from the valley to other parts of the world. Men emigrated to Australia and became miners; they went to Holland and to the U.S.A., where they settled down as farmers or developed their talent as hotel-keepers. Having made money, the immigrants sent home sums for the restoration and upkeep of family shrines, and occasionally for the erection of new ones. Unfortunately replacement rather than restoration was the usual procedure, and the artistic sense of the donors was not equal to their piety. In many instances the wrought-iron gates which had guarded the chapels for hundreds of years were swept away and replaced by modern substitutes, and all too often a plaster statue or coloured picture took the place of faded frescoes.

Yet the spirit that gave birth to the early paintings is not dead. In and about Bosco—the only German-speaking village in the canton—are shrines put up as lately as 1938, built and painted in the old manner. One such is shown on the opposite page.

The last photograph is of a fresco painted in the early 17th century on a house that is now derelict.

Sea Power and National Fortunes

1. Some Historical Factors

by J. A. WILLIAMSON

The significance of sea power in all its aspects, trade, fighting, exploration, colonization, is often underestimated or misconceived; but, as everybody has reason to understand today, it is the life of most nations and the inspiration of much of their policy. To illuminate its long history we have planned a series of articles, opened here by Dr Williamson, the distinguished writer on maritime enterprise

THROUGHOUT history, and probably before, dynamic peoples have sought the sea and adventured upon it. Since they first did so, sea power in one form or another has existed. Ability to use the sea has always encouraged an enterprising spirit, ill content to leave things alone, and has led generally to active forms of competition between one people and another. The peoples who have concerned themselves successfully with the pursuit of sea power have nearly always in the past been lovers of freedom. It may seem at the moment that that generalization does not hold today; but we have yet to see the end of the story.

Sea power does not rest on fighting fleets alone. It consists also, in its modern form, in the strength of merchant and fishing fleets; in the possession of materials for shipbuilding and the existence of craftsmen with ports and shipyards for their work; and in a certain tone and quality of the national instinct, giving direction to statesmanship and guiding its leaders to policies that make the best use of strength at sea. This last component of sea power is the least easy to define, but its importance is great. It has determined the issue in more than one crisis of our own history, notably in the struggle with Napoleon.

The applications of sea power are combatant and economic, both in peace and war. The pressure of fighting fleets in war is obvious, the blockade of the enemy and destruction of his trade, and the landing of armies on his coast. The civilian sea-population, the merchant seamen and fishermen, have always in modern centuries served the fighting effort in war time, and the civilian shipwrights and shipyards have turned over to war construction. The combatant fleet is effective also in peace, for its mere existence may carry the point for its country where otherwise the opponent would assert himself and resort to war. After the defeat of Napoleon the British Navy enjoyed about a century of preponderance over all others, and it was a century of peace, for whose preservation the Navy was more than once the direct agent. The function of merchant shipping in peace is a large ingredient in national sea power. It creates wealth, trains seamen, keeps the shipyards in employment, and ensures that an important section of the community is devoting its daily thoughts to the construction and running of ships. From all such activities come the national experience and instinct for the right use of sea power.

In ancient and medieval times the effects of sea power were less extensive than they have been in recent centuries, and combatant power at sea depended less closely on mercantile power than it has since done. The ancient sea armaments may be more justly regarded as armies afloat than as true navies, and they were mainly an expression of the military strength of their possessors. Salamis, the most famous sea fight of ancient days, was a soldiers' battle won by soldiers' methods in soldiers' ships. The war galley which did the fighting there and in all the Mediterranean for a full two thousand years was neither a seaworthy vessel nor an economic carrier, and was never used for general purposes by the seamen who carried on the business of the Mediterranean during that time.

The galley was essentially a machine by whose use a party of soldiers could make a charge across the water. In effect these men were marine cavalry riding collective steeds. Their first object, as in a cavalry charge, was

All prints from the National Maritime Museum, Greenwich

Sea power has always depended not only on the craftsmen who built the ships but on the ports and shipyards in which they worked. Below is a view of Deptford painted in 1780 by Nicholas Pocock, the maritime artist who had once been a merchant captain. It shows vessels in various stages of construction and the method of shoring. The Royal Victoria Victualling Yard now incorporates part of this old dockyard. Above is the same artist's view of Plymouth Dockyard painted 18 years later. In the background on the right is the famous bowling green overlooking Drake's Island. Many of the buildings have remained in use until the present day

to crush the enemy by the shock of collision, smashing in the sides of his ships with the ram. The second object was to board such vessels as had not been thus sunk and to capture them by hand-to-hand fighting. It did not need seamen to do these things. Nearly all galley battles were fought in calm weather and in or close to landlocked waters, and in many instances the galley operations were accessory to those of the armies on shore. The fighting crew of the galley were land soldiers, and its motive power was the labour of the slaves who pulled the oars. The vessels themselves were almost mass-produced, knocked together by the hundred to standard designs in a few months. It was largely to this fact that the impermanence of sea success was ascribable. A victorious fleet, as in the campaigns between Rome and Carthage, might destroy a hundred of its opponents' ships in a great battle; and by the following season they might all have been replaced, complete with soldiers and rowers, and the balance of sea power restored. Added to this, it was the custom to lay up galleys for the winter months, which increased the opportunity for the beaten side to recuperate. Tank warfare has some interesting resemblances to galley warfare.

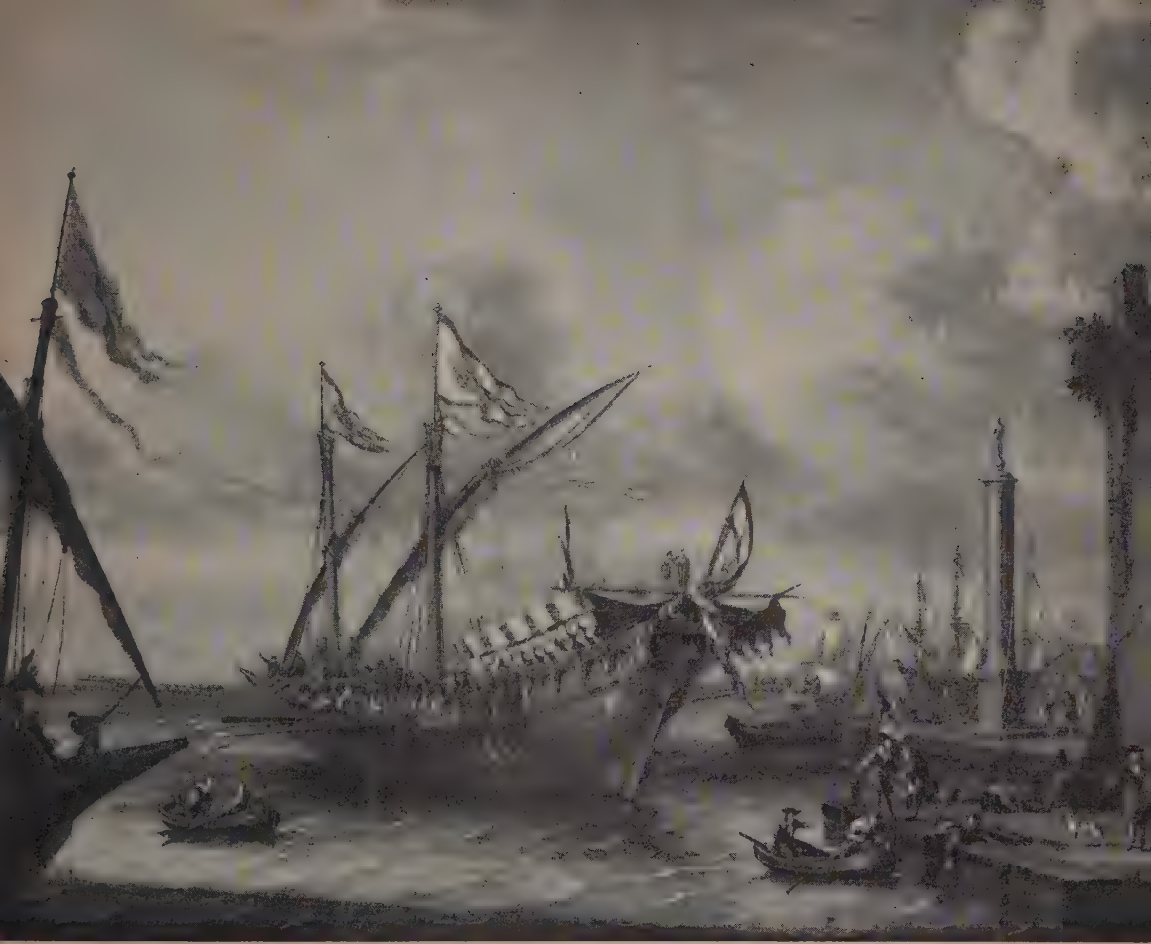
For these reasons there was very little "command of the sea", and indeed, command of the sea, in the sense of command of the whole Mediterranean, is not a conception much in evidence in the ancient world. Rome in time achieved it by including every Mediterranean coast within her empire; and there was then no rival against whom the command was useful. In the earlier struggle between Rome and Carthage there were terrific sea battles. Towards the end Rome had the best of it at sea and invaded Carthage; but invasion was always possible without a decisive sea victory, since even the most efficient fleets were like armies, able to guard only limited areas. They could not guard their own country by cruising permanently off the enemy's ports, since galleys were unsuitable for prolonged blockading. They needed a refuge from bad weather, and their crowds of men soon consumed their supplies.

In the Middle Ages the all-Roman control of the Mediterranean disappeared, and a variety of Christian and Mohammedan powers divided the sovereignty of its coasts. Some, such as Venice and Genoa, based their existence on sea power of the economic sort, but none achieved more than local command of the sea. Venice and Genoa fought a long maritime war for the mastery, but in the end both cities continued to be mercantile sea powers and divided the contested Levant into spheres of influence. The galley continued to be the ship of war, and its lack of endurance militated against the establishment of any decided sea supremacy.

During all these centuries the sailors of the Mediterranean were carrying on its commerce in much more seaworthy sailing ships. Why, it may be asked, were they not used for war? The answer is that in light weather the oar-driven galley had superior manœuvring power, and in calms had the sailing vessel at her mercy, able to make certain of ramming and sinking. The development of artillery at length made the sailing ship safe from the galley. The revelation was suddenly made in 1587, when Drake's sailing vessels at Cadiz crushed by gunfire a succession of galley attacks launched in still weather and landlocked water, the favourable galley conditions. Only a few years earlier the galley had reached the height of its fame at Lepanto, where the Spaniards and their Italian vassals won a great victory over the Turks. But, as with most galley victories, the effects were fleeting. Although the Turks' fleet had been destroyed they soon built a new one, and their hold on the eastern and central Mediterranean was not loosened.

In northern Europe the Middle Ages witnessed the use of sea power for transporting armies and creating mercantile wealth, but not until the 14th and 15th centuries do we find the beginnings of that modern idea, the command of the sea. The war galley of Mediterranean type never made much headway in the north. The Norse vikings used oared vessels, but they had no rams. They were swift transports which enabled the vikings to make long thrusts and surprise landings which were nearly always unopposed; and the fighting then took place on land. In the 11th century there was a short-lived Norse sea-empire under King Canute, who ruled England, Denmark, Norway and the Norse colonies in the northern islands. But the sea communications were too difficult, and after Canute's death the empire fell apart.

The Hanseatic League was an example of economic sea power. It was a mercantile combination of numerous cities of north and west Germany. By giving preferential treatment to one another they built up a powerful mercantile marine, which they used as if they had been a sovereign power, negotiating with governments, establishing Hanseatic settlements in foreign seaports, and using political pressure to work for the monopoly of the North Sea trade. In England the power of the League had so increased in the 15th



Mediterranean galleys of the 17th century. These vessels were used primarily for fighting purposes owing to their manœuvrability under sail. Note the lateen rig and strong prow. It was usual for three men to man each oar. This reproduction is from the painting by J. Meerhaut

century that it could use its shipping to promote revolutions by landing claimants to the English throne. Edward IV owed his crown largely to the League, and Lambert Simnel would have done if Henry VII had not defeated him on English soil. His landing on that soil, backed by a force of German soldiers, was the work of the League. By these means the League made kings fear it, and extorted concessions. So long as the situation continued the Tudor throne was unsafe and English trade was strangled. But the Tudor sovereigns created a navy, and in due course Elizabeth liquidated the League's position in England.

English sea power was of slow and intermittent growth. From Alfred onwards the Saxon kings turned out fleets, but, whatever successes they achieved, they did not prevent numerous invasions. Harold had a fleet in the Channel in 1066 to attack the expected Normans; but after the lapse of several weeks the ships dispersed for lack of victuals, and the Normans made their crossing unopposed. In those days the technique of victualling and the financial resources of governments were alike inadequate to prolonged effort. In the 14th century Edward III made an advance. He expected to be invaded by the French, who were collecting a fleet for the purpose in the Flemish ports. He collected his own ships, but, instead of waiting to be outstarved, crossed the Narrow Seas and destroyed his opponents' force at Sluys, thereby foiling the invasion. These fleets were not in themselves fighting forces. They were transports for soldiers, and Sluys was a soldiers' victory fought in an anchorage, like Salamis and the galley battles of the ancient world.

A few years later Edward III made another advance by organizing an effective blockade. He was besieging Calais and called out a great number of merchantmen and fishing vessels from all the ports of the realm. These held the Channel, transported the King's supplies, and cut off those of the French. Here was command of the sea, although limited both in time and space. Edward styled himself Lord of the Sea. He had no Royal Navy, and relied entirely on the ships of his merchants. But in his later years he neglected their interests and they ceased to be able to provide shipping. There was no more attempt at command of the sea, and the coasts were repeatedly ravaged by the French and Spaniards.

Henry V also had an appreciation of the command of the sea. In the early 15th century he built a fleet of real fighting ships, and with them held the Channel during his invasions of France. It was the nearest thing to continuous command that had yet been seen, but the effort died with him. Under his feeble successor there was no Navy, and the encroachments of the Hanseatic League and other foreigners grew dangerous. This bad time evoked the first English treatise on sea power, *The Libelle* [little book] *of English Policie*, attributed to Adam de Moleyns, Bishop of Chichester. His doctrine was that merchants made sea power and that they could be prosperous and England secure only while English shipping predominated in home waters: "Cherish merchandise, keep the Admiralty, that we be masters of the Narrow Sea". The bishop did not live to see any improvement, but his words were remembered in the age of the Tudors.

Summarizing this sketch of the period of ineffective sea power, we may ascribe most of the ineffectiveness to lack of endurance. The galleys of the Mediterranean were overcrowded, so that they rapidly consumed their victuals and water and had to seek port for more. In the north, during the same ages, there were some oared vessels, but sail predominated. Until the advent of artillery the ships were regarded mainly as vehicles for the troops, and thus overcrowding and shortage of stores made sea-endurance brief. Moreover, the financial resources of the northern states were lower than those of the Mediterranean, and they could not afford to keep up permanent forces. Even in the much advanced Tudor period victualling was a grave problem. It appeared almost impossible to collect sufficient stores of food and drink, or to preserve them for any length of time in a condition fit for consumption.

The conditions that created sea power of the modern kind began to show themselves in the 15th century. First Portugal and then Spain promoted voyages of discovery and founded trans-oceanic empires. In the 16th century England and France and the Dutch Netherlands became active on the oceans, and in the 17th century these three nations all founded colonial empires for themselves. There were then five oceanic powers in western Europe, all with coastlines on the Atlantic, and all with American, African and Asiatic interests.

From their distant possessions the oceanic powers drew great wealth, which enabled them to progress in material civilization and to put forth a strong war effort at need. Their ocean-borne wealth was open to attack, and hence came the development of ocean-going navies, very different from the naval forces of the Middle Ages. The doctrine that oceanic trade produced both the men and the ships to constitute an oceanic navy and also the wealth to pay for it, and that such a navy was essential to the life of the state itself, was widely accepted.

Endurance was the crucial point of difference between the new navies and the old. The 17th-century fleet could remain at sea for more months than the medieval fleet could weeks, and its range of action was counted in thousands of miles instead of hundreds. Not only could it maintain a continuous blockade as the old sea forces could not, but it could strike its blows in colonial and East Indian waters, and so deprive the enemy of the sources of his wealth and add them to its own state. The explanation of the new endurance was partly in an improvement in the design and details of ships, but much more in the reduction of manning to the point at which the ship could carry enough victuals for a long voyage. In its turn the reduction of manning was made possible by the heavy gun. It was found that a small crew of seamen using their seamanship to avoid being boarded could defeat with gunfire a much larger crew of soldiers to whom they never allowed the chance to fight. The Armada campaign clearly revealed this. There the new navy beat the old army afloat.

In the 14th century fleets were often used not as fighting forces but as transports for soldiers. One method of fighting, with archers massed in the bows for action at close quarters, is shown in this aquatint from the painting by J. Froissart (1337–1410) of the sea fight off La Rochelle in June 1372 when the English fleet under the Earl of Pembroke was defeated

Ocean-borne wealth has always been open to attack by an enemy. Here, in a contemporary engraving, we see the successful action of the Dutch Admiral, Piet Hein, when at Havana in 1628 he captured the Spanish fleet bringing silver home from the Plate. In 1627 the English captain, Nathaniel Rich, had attempted to waylay the 'silver fleet' without success

The consequences were those already outlined, the attack of the new powers on the Spanish-Portuguese monopoly of colonial empire, and the foundation of the British, French and Dutch colonial empires. Then followed contests between the new oceanic powers, the Anglo-Dutch contest of the late 17th century, and the Anglo-French contest spread over the whole 18th century and more, for it did not end till the downfall of Napoleon in 1815. The result was to give Great Britain by that date a great share of the trades of America, the West Indies and Africa, and a still greater share of those of the Indian Ocean and the Far East.

By the close of the Anglo-French wars in 1815 the uses of sea power had become clearer. In the fighting navies the great ships had grown more costly and difficult to produce, but tended to decrease in numbers, so that the effect of a shattering victory like Trafalgar was more enduring than of old. Twenty ships-of-the-line lost to Napoleon could not be replaced for the rest of the war, whereas a hundred quinqueremes lost to Rome or Carthage would have been made good in six months. Blockade, both of combatant fleets and of commerce, could be applied for unlimited periods, for ships could now keep the sea for years.

All this was obvious, but at that very time another effect of sea power, not then recognized as such, was causing a momentous change in the life of mankind. Medieval Europe produced only tiny quantities of gold and not very much silver, and its trade had been conducted on a small volume of currency. The Italian merchant cities early developed a system of credit and paper which enabled business houses to extend their operations, but this did not take place in northern Europe to the same extent. Oceanic trade and colonization changed the situation. Europe began to receive gold from Africa, and some gold and great quantities of silver from Spanish America. Despite her efforts, Spain could not keep this American treasure. It was dissipated through all Europe, mainly in the process of financing Spanish armies in Italy, Germany, France and the Netherlands. The trading nations gained and concentrated the silver of Spanish origin. It became the fluid capital that multiplied many times the business energies of Europe and prepared the way for the still vaster credit and paper increase of the present age.

Sea power and colonial empire conferred on Great Britain in the 18th century a large quantity of fluid capital. Her merchants accumulated it from the proceeds of West Indian sugar plantations, African slaving posts, East Indian factories, trade with the decaying Spanish and Portuguese empires, and successful competition with the Dutch in the expanding supply of China tea. The merchant had surplus capital to invest. At the same time his trade demanded ever greater quantities of manufactured goods to balance the rich exotic wares that his ships brought home. The supply and the demand were wedded in the industrial revolution, the new mass-output from factories, which changed the face of the country, increased its wealth, and altered the type of its population. The industrial changes were financed by the fortunes made in the long-distance trades, and were necessary to serve the further demands of those trades. They were among the most radical consequences of the British success in the competition for sea power.

British sea supremacy after the Napoleonic War was not seriously challenged for nearly a century. Its story is inseparable from that of the modern British Empire and cannot be even outlined here. It may however be claimed that its use was based on freedom and tolerance. The Royal Navy was the main agency in stamping out the slave trade. Sea power was not exploited to grab an undue share of the world's resources or to exclude others from claiming them. The expansion of the British colonies took place because there was a surplus population prepared to emigrate; and if, at that time, the Germans and other European peoples had been ready to organize their own efforts, there is not the least doubt that the colonial prizes would have fallen to them also. As it was, the Germans awoke only in the late 19th century, when the British outflow had occupied the best regions for European settlement. There remained tropical Africa. The partition of Africa in the eighties and nineties was forced by the Germans and the French, and Britain took a share to avoid being frozen out. But she did it reluctantly and would have preferred to see Africa develop as a region free to all. No one in this country thought of using its sea power as a bar to the claims of other nations, and Gladstone declared that he welcomed the entry of Germany into the ranks of the colonizing powers.

The 19th century was the era of free trade, which implied freedom in many other respects. British sea power in that good time was used for peace and stabilization and honest gains in enterprises open to all.

India in Transition

by SIR STANLEY REED, K.B.E., LL.D., M.P.

Though India and her relations with the British Commonwealth are among the most pressing problems of today, the average Englishman is ill-informed about her physical and cultural background. In the hope of promoting a more general understanding, we intend to publish a few articles giving some idea of the changes that have taken place in the past fifty years. The author of this, the introductory, article has spent most of his life in India where for seventeen years, in addition to financial, industrial and administrative experience, he edited the Times of India.

A GREAT Indian administrator declared on his retirement that no one was competent to speak on Indian affairs who had been five years out of the country. In view of the rapidity of recent changes, I should feel inclined to reduce that period to three. It is four years since I was in India, but taking my courage in both hands, I accept the invitation to try and give readers of THE GEOGRAPHICAL MAGAZINE an impression of the developments

I have witnessed, and to draw certain broad conclusions from them.

When I went to India forty-five years ago, life was almost primitive in comparison with today. My voyage took twenty days, for I was not travelling by the mail steamer. Arriving in the noble harbour of Bombay in the middle of the rainy season, landing was in a small country craft which was blown for miles up the estuary before tying up at the pier. I drove in a ramshackle hack victoria through streets flooded by the storm to a hotel whose walls were dripping with damp.

It was then a three-day journey by rail to Calcutta, and literally you took up your bed and walked. None dreamt of travelling without his bedding, even if he was visiting friends. In the hot weather, wheels of aromatic grass revolving in a tank of water and turned by hand did something to make a shade temperature of 120° F. bearable.

India bought her cotton goods from Lancashire, while her mills ground out a low-grade yarn for China and Japan; her steel from Britain and Germany; sugar from Europe (those were the days of the bounties) or Mauritius; and produced her dye-stuffs from the indigo fields.

In the 'cold' season—I am provincial enough to believe that between mid-November and mid-March the climate of Bombay is the best in the world—smoke hung over the Island from a hundred factory chimneys; our coal came from Wales or Natal. Caste ruled supreme, and the small band of social reformers played lone hands indeed. The re-marriage of a Hindu widow was an event of shattering importance at which the orthodox raised their hands in horror. The Mohammedans had scarce begun to emerge from political and educational backwoods under the teaching of the Mohammedan Anglo-Oriental College of Amritsar. The purdah was rigid, though under the inspiration of the Parsi community, free from caste, women were coming out of their seclusion in Bombay, but men were alive who recalled the days when no woman dared to appear in public other than walking meekly in the train of her lord and master. The Depressed Classes were depressed indeed, without status, without hope, almost without friends except among the social reformers. In the country districts the bullock-cart was supreme, the rough tracks permitting no other form of conveyance; even in the cities all goods were carried by creaking cart or on men's heads, and a fast-trotting pair of bullocks represented something in the way of luxury.

Contrast this with my last visit. A 20,000-ton steamer carried me from London to Bombay in eleven and a half days, following the overland route via Marseilles. It tied up alongside the pier, and in an hour I was ashore, my baggage having passed through the Customs, and speeding through wide streets I was breakfasting at nine o'clock in one of the thousands of flats which have taken the place of the sprawling bungalows where an earlier generation was wont to dwell. But this was slow work. If I had taken the Mail Aeroplane, which ran three days a week, I might have been in Karachi in three or four days, and tied up with the Bombay sub-service at Jodhpur, one of the great airports of the East. I railed to Calcutta in thirty-six hours in a train providing all the comfort of the *wagon-lit*, with more space; now dust-proof, air-conditioned carriages maintain an even temperature and humidity through the dreaded hot season. At the Willingdon Club I played golf with Indian ladies who a few years ago hid behind the purdah or scuttled to shelter when visiting my wife on Malabar Hill; they dined at clubs which used to be exclusive. At every considerable country town the market-place was close-packed with motor omnibuses bringing the country folk to and from their villages; I learnt that it was easily possible to travel by bus from Bombay to the most distant points in the Deccan, four hundred miles or so. The Indian was always a traveller; even in the days when the villages were isolated, almost self-contained communities, he went forth in his thousands to the centres of pilgrimage; now with the motor bus almost at his door, often with a loud-speaker giving broadcast news at the common meeting-place, the *chaura*, he is in vivid contact with the urban world. An Education Minister, chiding the impatient, urged them not to expect the speed of the motor car in the land of the ox-cart. India is now the land of the autocar; the tempo has quickened.

I believe that the basic forces in human society are economic and social; politics are the froth the ferment throws up. These examples, taken almost at random, give a bird's-eye view of the immeasurable changes which have occurred in India within a single generation, and in the compass of an article no more than a bird's-eye view of the vast and varied land can be attempted.

Glancing over the economic field, even the casual observer is arrested by developments of a portentous character. Naturally the first

Paul Popper

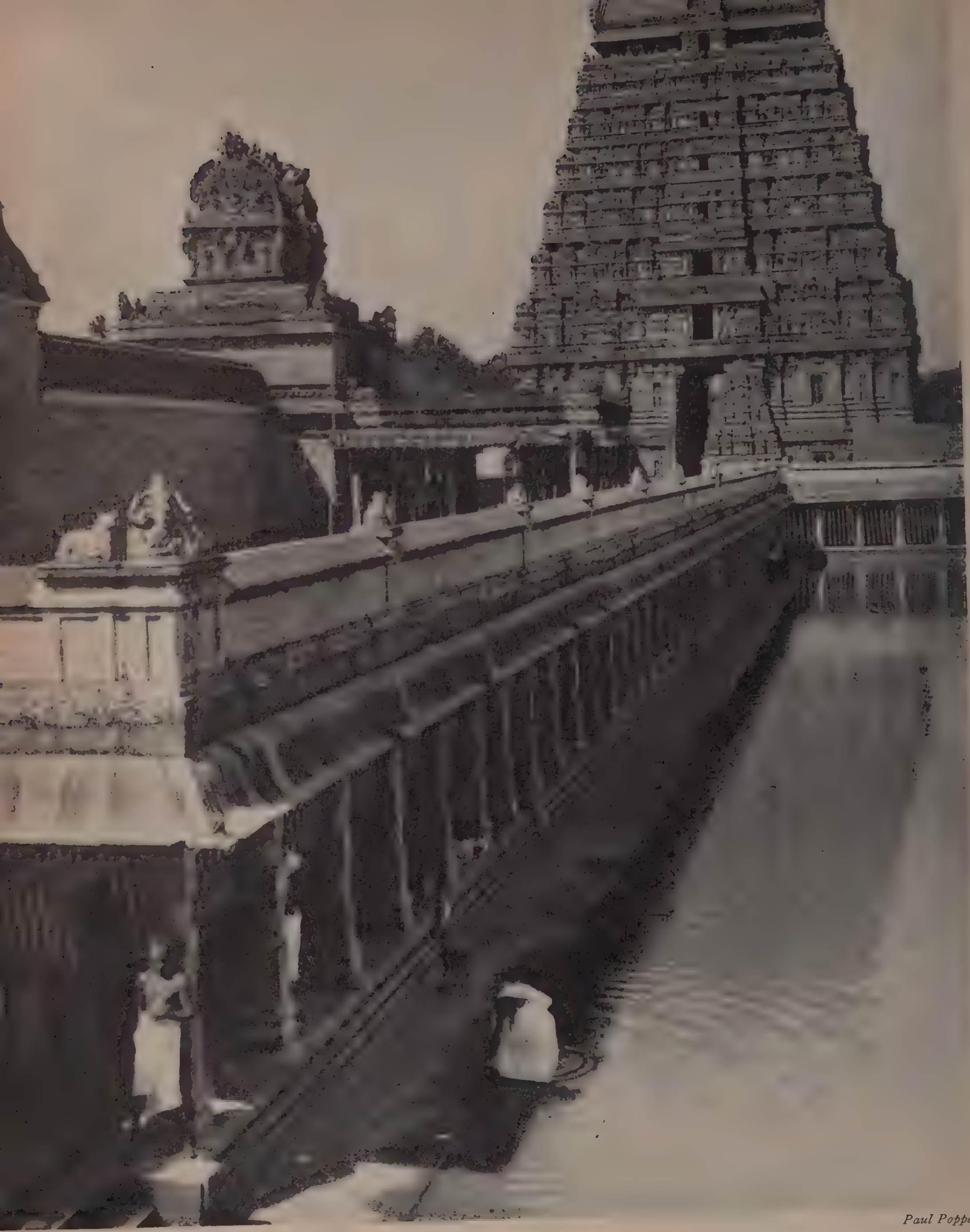
Three-quarters of India's millions live on the soil. The motor omnibus may take the peasant from his village to the town: the ox is the patient labourer who tills the field. Here is a Punjabi with his yoke

Paul Popper

(Above) *Often the question is asked, which is the most beautiful city in India? Most travellers would reply Udaipur. The great White Palace facing the lake is of indescribable beauty when the sinking sun softens the harshness of noonday. This is the capital of the ancient Rajput dynasty, Newar, first among that chivalrous race.* (Opposite) *A street in the old town of Udaipur*

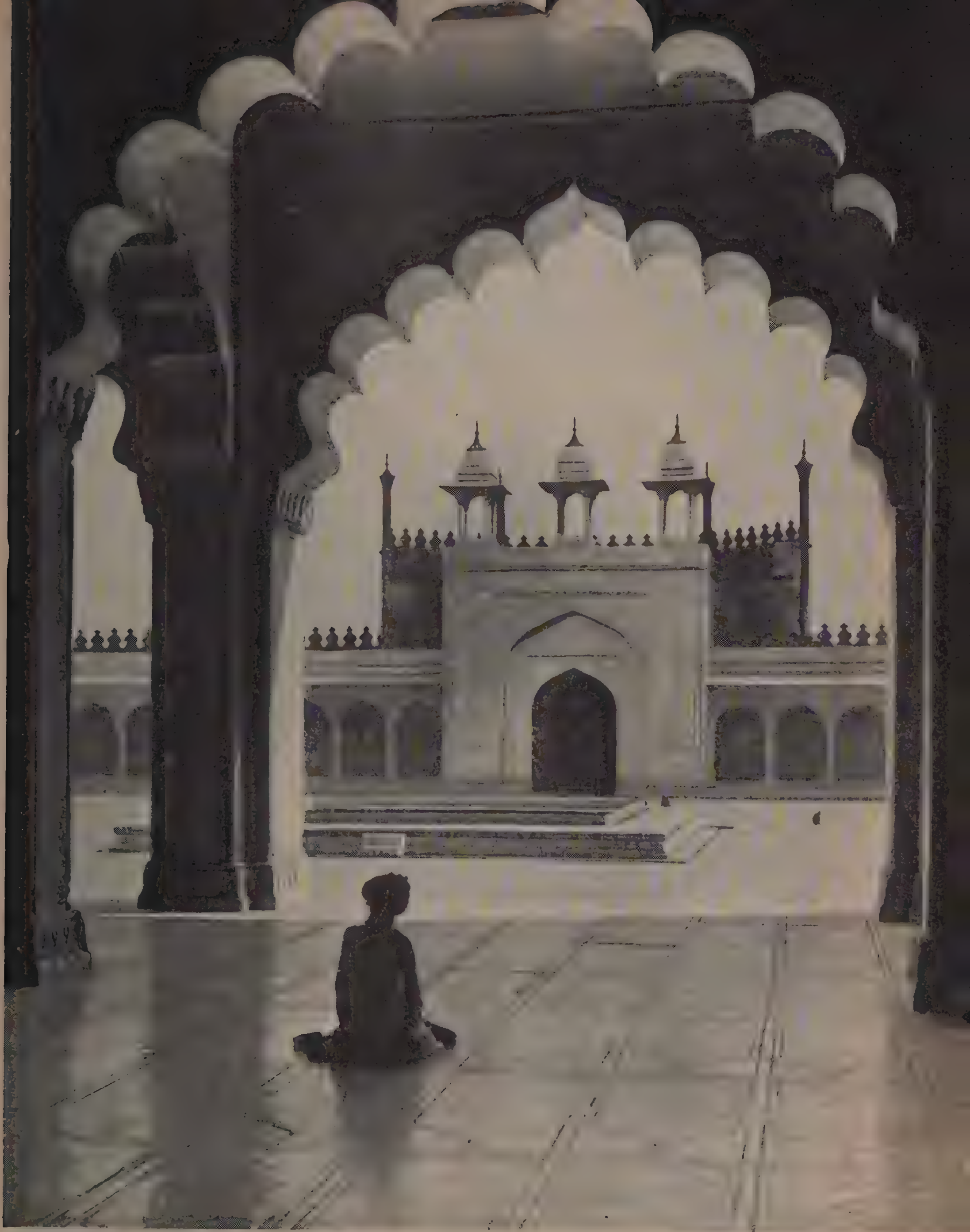
industrial growth was in the manufactures where favourable natural conditions obtained —raw material and a home market—textiles. When the Japan and China markets for yarn were lost through the establishment of indigenous manufacture under protective tariffs, India naturally turned to her own need for cotton goods. In the year before the war she produced 1160 million pounds of yarn and 864 million pounds of cloth.

As the staple of her cotton is improved under scientific cultivation, supplemented by imports from Egypt and America, inevitably she will satisfy all her own demand for textiles, even of the higher grades. This has brought another change in its train. As the industry grew up under an export trade, it was natural that the mills should be established at the



Paul Popper

The Hindu architect ran riot in decorative sculpture. Nothing in the world equals the richness of the temples of Southern India and the rock carvings of the caves of Ellora. This picture of the Siva Temple of Chindambaran is characteristic of the craftsman



Paul Popper

Monotheistic, iconoclastic, the stern Mohammedan is forbidden the reproduction of living things. His great monuments reach their perfection by form, line, proportion; with, for decoration, verses in the flowing Arabic script. The Pearl Mosque at Agra

Barnaby's

Though India is and long will be an agricultural country, it ranks among the great manufacturing lands. The industrial pioneer has gone into the jungle and there built up steel cities, cement and sugar works, great engineering shops

seaports, Bombay and Madras; when the industrialist turned to the home market he expanded into the inland towns so as to be nearer the raw material and the consumer. Industries are now developing in the interior —Ahmedabad, Sholapur, Agra and Cawnpore.

This has been helped by another marked development. Coal, the life-blood of modern industry, is chiefly found in the north-east, Bihar and Bengal, and often there is a lead of a thousand miles from the pits to the factory. In Bombay, the rainfall of three hundred inches which falls on the western hills is stored in giant reservoirs and delivers 250,000 electric horsepower to industries which are largely independent of coal.

Looking over the Island the chimneys are still there, but they no longer poison the air with smoke. The Punjab has a hydro-electric grid covering an area equal to that embraced in the grid of Great Britain, and the irrigation reservoirs of Madras are generating white power bringing cheap energy to fifty millions of people.

Bengal has, and always will have, a virtual monopoly of jute, which can only be grown economically in its hot, humid plains; it is fabricated into finished products instead of being exported raw. These manufactures amount to more than a million tons annually.

More significant still is the growth of 'heavy' industries. Far-sighted men realized that an essential feature of a healthy economic cycle is iron and steel manufacture; finding inexhaustible supplies of ore of the best quality in eastern India, in reasonable proximity to the coal-fields and the ports, they went into the jungles of Chota Nagpur, and with the aid of British and American technicians established the Steel City of Jamshedpur, which now produces a million tons of steel ingots annually. Round it has grown a chain of ancillary manufactures—tin-plates, agricultural implements and railway material.

India was always a sugar-producing country, yet, refined sugar used to come from abroad—from Europe under the bounties; to a limited extent from Mauritius; and when the bounties were scotched, from Java. Under the umbrella of a high protective tariff the home industry has so developed that with a production of a million tons a year she satisfies her own needs and has a surplus for export.

Another instance. The traditional building material of the land is brick and timber, but a generation ago cheap imports of steel from the United States caused her architects to switch over to steel and concrete. Cement was still lacking; now the land is studded with cement factories and imports have virtually ceased.

All these forces were in full blast before the war came upon us; with the need for equipping the armed forces in the Middle East and the Nile Valley they have been greatly quickened, though the results cannot yet be measured. But in passing we can mark one of their most important reactions. It used to be a truism that in India capital was timid and in short supply—timid because the legacy of centuries of misrule induced the belief that a store of value was safe only if it were kept in the form of bullion—gold and silver—and jewels. For this reason India was often described as "the sink of the precious metals". Those days have passed; the people have learned the benefits of the investment habit; and today India has not only abundant capital for all her own needs but a margin for investment abroad.

Incidentally, under the pressure for war supplies for the United Nations she has bought back the whole of her debt in London, to the amount of £300 millions or so.

Paradoxical as it may seem, though India is pre-eminently a land of the village—there is only one considerable town between Bombay and Calcutta—and though three-quarters of her people live on the land, for years she has been graded at the International Labour Office as one of the major industrial countries of the world. Yet it is plain that only through the improvement of her agriculture can India raise the standard of life of the mass of the population—a standard which is still lamentably low. Much has been done. If I were asked what is the greatest social-economic change of the last fifty years, I should say the abolition of the spectre of famine.

A glance at the meteorological charts reveals a peculiar phenomenon. The great rain-bearing currents sweep up from the Southern Seas and are indrawn by suction to the sun-baked plateau as they approach the western coast; on the strength of that suction depends the tremendous issue—whether the myriad fields of the land will be watered, or remain arid for another year.

It used to be said of large areas that they expected famine one year in three—and got it. I witnessed the effects of the famine of 1896–7, and of the still greater tragedy of 1899–1900, when millions of acres did not produce a blade of grass and millions of people had to leave their homes to labour on the Government relief works. While few, if any, died of actual starvation, for there was food enough for all, the disruption of family life was shattering; disease, cholera, malaria, later took heavy toll of frames weakened by privation or unaccustomed toil.

Lean years as well as fat must surely come; but famine, in the old sense, has been banished for all time. Industry furnishes an offtake if the fields are bare; irrigation on a gigantic scale assures crops over an increasing area. The engineers have so completely harnessed the Five Rivers of the Punjab that the whole of the non-flood flow is spilt over the land, protecting nearly 40 per cent of the area from drought; the great barrage across the Indus at Sukker, in Sind, brings under rice, wheat and cotton a desert area as large as the cultivated lands of Egypt. The rainfall of Western India is stored in reservoirs which give up their life-blood in the dry season, and the great rivers of Madras—the Cauvery, the Godavery and the Periyar—bitted and bridled, spread prosperity far and wide.

Nor while the scientist and the technician were busy in the factory were they idle in the field. Evolved in Research Institutes, tested on Government Farms, improved varieties of cotton, wheat, rice and sugar-cane are available to the cultivator, with immediate improvement in the crops.

Yet one immense agricultural problem remains, and on its solution depends in large measure the well-being in India. Custom, which prescribes the division of the family holding among all members, and a tenacious affection for the land characteristic of the people, has led not only to the uneconomic holding but to the fragmentation of the uneconomic holding into little pockets, scattered over the village, which bar the way to effective cultivation. In Bengal the establishment of a multitude of charges on the land has led to a chaotic situation in which infeudation has spread sometimes to the growth in extreme cases of twenty to thirty parasites on a single holding. It has been estimated by

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1. The Indian is proud of his turban which often indicates his race and status. A fine old fellow from Palanpur. 2. Festivals bring finery. A Mohammedan lad in his 'glad rags'. 3. Pilgrimages have filled a great place in Indian life. A Hindu ascetic at the Kumbh Mela. 4. A street banker. The Hundi *or bill of exchange runs as far north as Afghanistan and Central Asia. 5. Hindu women love flowers. This girl is bringing laburnum from the forest. 6. Who has not heard of the loveliness of the Vale of Kashmir? This old man stands in its gracious setting*

competent authority that in Western India, where the ryot holds directly from the State, the consolidation of holdings would double the outturn of the soil without additional capital or labour. That is a political rather than an economic question, to which I will recur when we come to the political field.

That brings us to grips with a problem which will test Indian governments as no governments have been tested in recent history. In two decades the population has increased from 319 to 388 millions; no development of manufacturing industry, no extension of irrigation can maintain a population growing at this rate even on the present standard. Unless it is resolutely handled, and a solution lies in a higher outturn from the soil, India may become a vast rural slum; during the last fifty years the population has been increasing at the rate of 0·8 per cent

Paul Popper

All India loves a fair. When possible these are held on the seashore or a river bank, when in the long dry season the turbulent flood torrent is shrunk to a tiny trickle. The pilgrimage, the fair, these are the great occasions which break the greyness of so many Indian lives

per annum; agricultural production has only grown at the rate of 0·4 per cent.

If I seek to define the greatest social changes in these four and a half decades it will be under three main heads—the emancipation of women; the growth of political consciousness of the Mohammedans; and the stirring of the Depressed Classes, or 'Untouchables'.

The Parliamentary Commission which investigated the working of the Reform Act of 1919 declared that "The women's movement in India holds the key to progress". That progress is surprising. My working years were spent in Bombay, which was in the vanguard of the feminist movement; the Parsis, standing between the European and Indian communities, exercised a progressive influence. Yet even in Bombay, on public occasions, arrangements had to be made for women to sit behind the purdah; when the Willingdon Club was established for the use of all communities, there was a 'purdah pavilion'. It was burnt down and never rebuilt; that is a sign and a symbol. Now women have the vote, and with the vote, freely exercised, comes power. Women sit on the Municipal Bodies and the Legislative Assemblies; Madras had a woman Minister under Provincial Home Rule; women are active in welfare work, and have made their influence felt in legislation to raise the Age of Consent within the marriage bond, as well as the ban on child marriage. They meet annually in the All India Women's Congress, where policies are formulated. Of course not everywhere is the pace the same; the practices of two thousand years cannot be lightly shed; but broadly, woman has come by her own and set her foot firmly on the road to equal rights.

When English was chosen as the medium of higher education over a century ago, and the Universities established in 1854, the Mohammedans stood aloof from the New Learning; so long as all power was concentrated in British hands, they felt their status secure. But one of their greatest men, Sir Syed Ahmed, realized that those who stood aloof from the New Learning must be left behind in the race for progress, and established the Mohammedan Anglo-Oriental College, linking the teachings of the Prophet with western culture. It is now a University. As soon as Mohammedans discerned the transfer of power from British to Indian hands in the Reform Scheme of 1909, they saw that without organization they would be unheard and stood in danger of submergence under the Hindu majority, and that awakening has grown until the Moslem League is the second most powerful political organization in the land, and one which must be reckoned with in all developments.

The Untouchables—here we see one of the greatest blots on any society. With all respect it seems to me that my Hindu friends are illogical; they will not admit that the Untouchables, 60 millions of them, are any but Hindus, and at the same time deny them any rights in the Hindu system; pariahs they were, pariahs they must remain. It was left to the Social Reformers, in my experience the salt of India, to give them the first gleam of hope; now the Untouchable has the vote. Ably led by men of their own community, they are heard and will be heard yet more loudly. The days of their complete and permanent degradation are past.

How far have these tremendous economic and social changes, so lightly and most inadequately sketched, been reflected in the political system? It often seems to me that British administrators in India, having introduced a charge of dynamite into Indian society, tamped the heading and fired the fuse, were painfully surprised that there was an explosion. The first explosive was the decision to make English the medium of higher education, consummated by the establishment of the Universities. Far more powerful than gelignite is the teaching of English literature and English history, breathing the living fire of human freedom expressed through democratic institutions. Anyone who studies education must realize the strain, possibly the handicap, of education through a foreign tongue, but are there no compensations? The Indian graduate has at once the key which unlocks the literature of the world; nothing of importance that has ever been written remains untranslated into our tongue. Among his own people, with their hundred and fifty languages, he finds a common medium of expression; if he travels abroad he finds English the *lingua franca* of the educated world.

Let me give an instance. The poet Rabindranath Tagore gave an address at Bombay University pouring scorn on any education save through the vernacular. The next morning we were breakfasting together and he asked my opinion of the address. After compliments, as we say in the East, I could not forbear adding—"But if your theories had prevailed, there was not a single person in an audience of a thousand educated men and women who would have understood a sentence." Bengali is as much a foreign language in Bombay as Russian in London. To the dynamic force of education in English we added the powerful inculcation of the brotherhood of man through the Christian ethic carried by generations of devoted missionaries.

The steel frame of the Indian administration, the Covenanted Civil Service, more than half of whom are now Indians, built up a magnificent administrative system perhaps over-elaborate, but highly efficient, manned by able and hard-working men; I speak with knowledge and respect for I have worked inside it. But having created this fine administrative system, were they sure to what ends it should be directed, other than the static maintenance of law and order? Further, they were handicapped by the neutrality

A famous view of Kangchenjunga, queen among Himalayan peaks. To the Hindu the Himalaya range is holy ground, deeply identified with his sense of unity with Nature, and to its recesses thinkers and pilgrims have for centuries repaired for meditation

Paul Popper

Black Star

an alien government must observe towards religious and social questions—the very issues pressing for action. They stood, it seemed to me, amazed, almost aghast, at the genie who emerged from the bottle—a people educated in the spirit of liberty that is instinct in English literature, saturated with the study of parliamentary institutions, demanding the right to govern themselves, and even the most conservative feeling that social and religious evils could not be exorcised by any government, however benevolent, which had not its roots deep in the soil and fortified by public opinion.

Criticism of slowness towards self-government must not blind us to the progress actually made. Very soon after the assumption of responsibility for the governance of India by the Crown the seeds of constitutional growth were planted, when Indians were called within the arcana of government for the purpose of making laws and regulations.

In the history of constitutions there is ebb and flow, but no turning back; it is an interesting study to see how the mustard seed spread into a vigorous tree in successive Reform Acts. The real turning point was in 1917, when in response to a demand for a goal and a policy the British Government for the first time clarified their own minds and boldly declared that the goal was the establishment of responsible government in India.

There is dim appreciation of the extent of the changes embodied in the Act of 1935, which established Home Rule, through Ministers drawn from an elected legislature and removable by it, in the eleven provinces. We should entirely dismiss from our minds the idea that these great administrative units are pale satellites round an all-powerful

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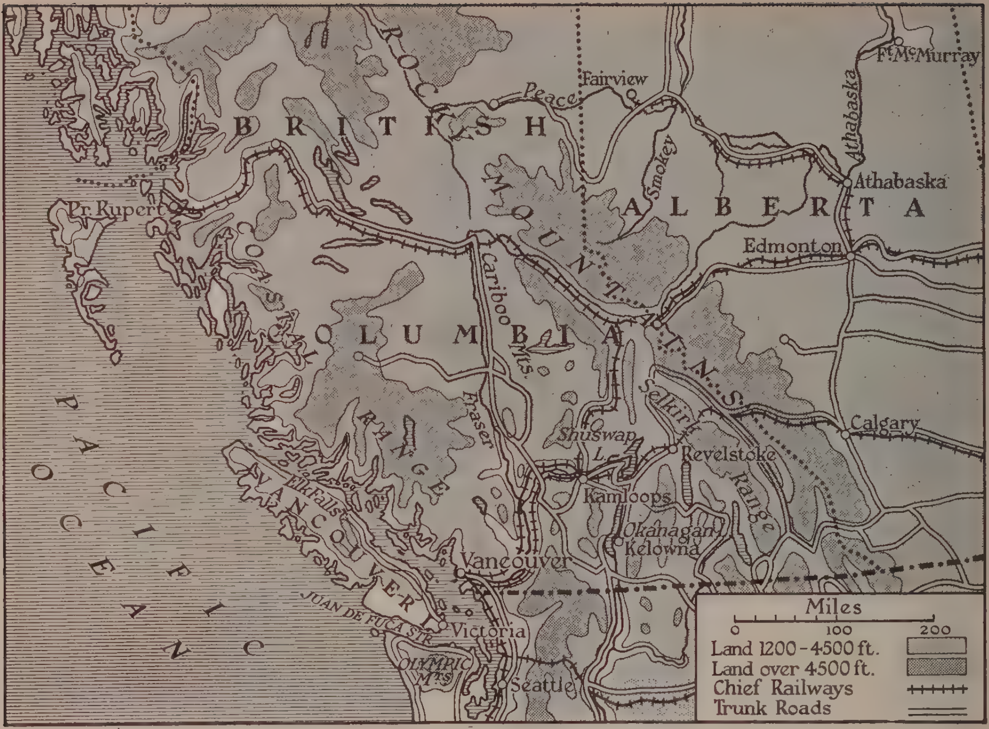
(Opposite) *The famous bathing ghat at Benares.* (Above) *Women hold the key to Indian progress. That was the considered opinion of the Parliamentary Commission which enquired into the working of the Reform Act. The purdah has been rent, the seclusion of the zenana is being broken down. Women, often graduates of the universities, have invaded the professions and taken an increasing part in public life and welfare work. These students belong to the Rifle Club at The Foreman Christian College, Lahore*

centre; with their large populations—Bengal 60 millions, Madras 49 millions, the United Provinces 55 millions—and their own languages and culture and racial characteristics, they are in effect States. With the strength derived from responsibility these governments were able boldly to experiment on social legislation, such as prohibition, the control of temple funds, etc., with the active support of the Civil Service and the British Governors.

The Federal Government unfortunately was not brought into being; if it had been, my own conviction is that a united India, embracing both the British Provinces and the Indian States under their hereditary rulers, would be substantially independent today.

There was no ambiguity in the pledge which Sir Stafford Cripps took to India on his recent mission; the objective, borrowed from the Statute of Westminster, is "the creation of a new Indian Union which shall constitute a Dominion, associated with the United Kingdom and the other Dominions by a common allegiance to the Crown, but equal to them in every respect, in no way subordinate in any aspect of its domestic or external affairs". All this, with the enemy at the gates of India, is in the melting-pot. But when victory is gained and we recur to the constitutional future of India, principles will remain; my own belief is that the principles embodied in that pledge, a Union of States autonomous in their own affairs, linked for common purposes and deriving strength and security from partnership with Britain and the Dominions in full equality, is the only principle which can meet the distinctive needs of India, religious, racial and economic, and carry the assurance of stability.



Western Canada: a Land with a Future

by JOHN ENSOR

Mr Ensor arrived in the country he describes here by chance; but what he saw so appealed to his artist's eye that he determined to do everything he could to popularize it in over-crowded industrial Britain. To introduce settlers and industries from one country to another is a complex problem on many aspects of which Mr Ensor does not touch: for his is a personal reaction, and he pleads his case frankly and persuasively

In 1939 I unexpectedly found myself on a station-wagon heading for British Columbia. I had been glad to occupy a spare seat in it from Eastern Canada to the west coast.

Our journey ended at Victoria on Vancouver Island, which has a snowless and mild winter compared with the rest of Canada. Here the capital city of British Columbia has grown up round a small rockbound harbour. The days are usually sunny and breezy, mist and fog are rare. Across the straits of Juan de Fuca rise the snow-capped peaks of the Olympics over sparkling blue waters that remain ice-cold even in summer. The rocks are bare of seaweed and the water is crystal-clear right up to the shore. Sun-bleached logs, thrown up by the rough seas, and strewn along the beaches or on the rocks, rear their gaunt limbs to a wind-swept sky.

My last job had been industrial designing at Birmingham in England, and the contrast of those endless paved and smoky industrial areas with the clear atmosphere of the West was impressive—probably specially so to me, a painter.

Within a few days of my arrival a portrait

Illustrations from water-colours by the author

Undulating 'dry belt' country lies between the Rocky Mountains and the Coastal Range. The house here is characteristic and lies on the outskirts of Kamloops, once only a railway town but now also a health centre adjoining the Okanagan fruit-growing valley

commission took me to one of the small neighbouring islands. I went by a sailing-boat fitted with an auxiliary engine; its crew and captain was my host and 'sitter', a hale old cavalry colonel of over seventy. Life seemed freer and larger than it ever was in England. Most of the essentials of life, such as building materials and houses, fruit and food, were plentiful—and cheaper—and the car tax is less than a quarter of the English one. Here in every respect seemed to be a land that suited me.

As the warm weather came round again I bought an old bicycle and roamed inland from Vancouver to the fruit-growing areas of the Okanagan, and the more I saw of it the more I liked it. Whether I turned towards the awe-inspiring mountains and canyons of the Coastal Range, the tawny humps and swinging hills of the dry-belt further on, or the farms and sawmills round the lakes, it all seemed astir with life and sunshine.

It was a shock, then, to hear tales of woe. Even on the rain-watered slopes surrounding Shuswap Lake, where farm clearings alternate with second-growth forest, I would hear complaints of farms needing to limit their output for lack of markets. Fruit exports, we knew, were becoming restricted on account of the war, but there were even dairy farms, supplying the local markets, that seemed to be having none too easy a time; and the chief lament seemed to be that there was not a big enough population to feed.

I was curious to know why more people should not want to live in such idyllic parts, particularly when they lay on a main East-West railway line. On pressing my enquiry I gradually unearthed the causes—a vicious circle—that lay at the bottom of it all.

"There is an insufficient population and therefore too poor a market to make it worth while for the manufacturer to set up industries here. This lack of populated industrial centres leads to a limited demand for agricultural produce, and this in turn prevents land expansion, and so continues to keep the population insufficient to attract the manu-

Douglas fir near Elk Falls, Vancouver. The Pacific coast of Canada and the U.S.A. is the home of giant trees. 'Cathedral Grove' and the 'Redwood Empire' are among its famous timber reserves

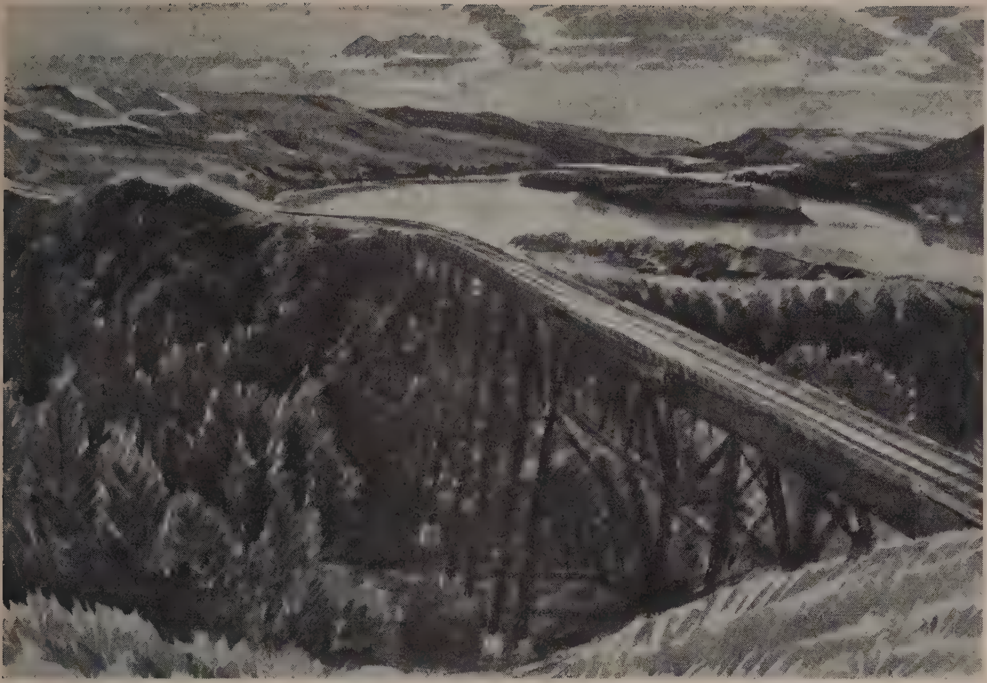
facturer." In short, the country has grown rapidly, and is now rather like an overgrown youth needing extra nourishment to develop its strength.

The charm of the country had so gripped me that I was driven to experiment—to try to present in my paintings life in 'the West' as it really is, and then to take them back and show them in the over-crowded industrial areas of Britain. I wanted to see if this scheme could not encourage skilled craftsmen from the fine Old World trades to transplant themselves and their works to these grand new surroundings. Such a plan might be as welcome to the over-crowded as to the under-populated areas.

True, the West was not without its unemployment problems, but the introduction of skilled workers who could make use of local raw materials by setting up works for treating furs, tanning hides, making shoes, meat essences, growing wool and weaving, etc., ought not to aggravate that and might even help. With this idea in mind I set about travelling more systematically North, South, and East.

Bicycling is a good way to get to know any country, even if the roads are not always built for it. You get the smell of the air, hear the sound of the grasshoppers, and you certainly notice every hill and twist in the road. You can (and do) stop at the slightest provocation and thereby absorb more odd facts and get talking to more people than is possible in other ways of travelling. On a good day's run I did not reckon to do more than fifty miles, but I would sometimes have a sketch done by the roadside at a midday halt to add to my growing collection. Often I only went twenty-five or thirty miles, yet in hilly country with a laden bike even that was plenty. Over some hard stretches the train or long-distance buses were very welcome; at other times I would leave my bike behind altogether and sail off into the Cariboo or elsewhere in some kind traveller's car bound on business.

As a visualist the things that impressed me were, first of all, the enormous spread of the landscape, the firm, clear shapes that showed its geological origins even to the uninitiated. This is partly due to the astonishing clearness of the air, which also gives vaster skies than



Looking south to the meeting of the Smokey and the "Mighty Peace" Rivers. The railway in the foreground comes from Edmonton, the nearest city and capital of Alberta, 250 miles to the south-east

we ever see in Britain. Stray clouds at sunrise or sundown add the completing touches to the most impressive panoramas.

In a dry climate you may not find moss and primroses, but you do feel more full of energy. Even the heat of summer seems to stimulate rather than to oppress, and the clear-skied frosty days of winter are thoroughly enlivening. Western Canada is, in fact, characterized by this largeness and energy. It is as noticeable among the giant fir trees as it is in the new office blocks of the towns or the huge grain elevators. The robust disregard for streamline finish of the old stern-wheeler is somehow typical of its resourceful go-ahead attitude. Life is simpler: there is more room for ideas and action.

The nearness of unspoilt country to industry would appeal to many Old Country workers. What a contrast to be able to look from the sawmill or from the fruit-packing-house door and watch, maybe, a hawk wheeling above an open space!

Sawmills and logging outfits inevitably pick good locations, and their methods, too, are characteristic of 'the West'. The tallest tree of a section to be logged is singled out as a derrick; after the dangerous job of clearing its branches and topping it, steel guy-ropes are strung out and a system of cables, worked through pulleys at the top by a donkey-engine below, is used to haul the huge felled fir trees from distances of half a mile or more to a central dump for loading on to tractors. This mechanical age knows well how to save itself physical exertion, for even the return of the cable to the next felled giant is by light cables through other pulleys hitched to tree stumps. As the timber is brought in, smaller trees that stand in its path are torn from the ground like cabbage sticks.

The waste is alarming, but lumber is plentiful. In many places an elaborate log-house can be built complete for $900 (£200) and homesteaders' cabins cost less—a house of your own (though not in a paved neighbourhood) for the price of a couple of years' rent in England!

The most northerly point that I reached was Fort McMurray on the Athabaska River.

Here the hills are covered with spruce and poplar trees that make a rich, glowing display in autumn. Hidden among them I found the pilot plant of a new industry—the excavation and refining of the 'tar-sands' for oil and high-octane petrol. In an area of about fifty or sixty miles round here there is said to lie several times more oil than in all the known oilfields of the world put together. Until recently it has been difficult to extract, since the combination of tar and sand forms one of the finest abrasives known, and no metal exists that can stand up to it for long. But an ingenious process for boring holes with steaming pipes and then blasting is now being tried and big developments may follow. In this same area, but at a lower level, lie rich salt deposits worked by the brine method. The deposit is equal in purity to any in the world and could well be mined in the ordinary way were the demand for it greater. And above all this lies good earth for farming. Truly a land with a future.

From Fort McMurray, which lies at the end of the railway and is some 200 miles beyond any roads, trade is at present carried on "down North" by either 'plane or river-boat, and in winter by ski-'plane or tractor-sled train. The Hudson Bay Company's trading store at this point is a warehouse three-quarters of a mile long.

Up in the Peace River district I was glad to be having a lift in the car of a Government official. This area is known for its world-record grain crops; but owing to the excessive falls of rain through the harvest season, many of the crops had been spoilt, and the earth roads had turned to quagmires. Two or three cars would advance together against the heavy odds so as to pool resources of spades and man-pushing power. If even then one of them slithered off into the ditch, they might have to wait till another 'convoy' arrived or else seek the aid of a team of horses from the nearest farmer. In the event of meeting cars from the opposite direction, it would be a question as to which should leave the ruts since even wheels with chains would spin and skid alarmingly once they left the main ruts.

Apart from such encounters we would go cheerfully smacking and squelching along, sometimes sidling like a shying horse for a mile or more with our front wheels in one set of tracks and our rear wheels in another.

Besides being rather isolated by the difficulties of this single road the Peace River district has no telephone communications with the outside world. The upkeep and development of roads, bridges, schools and their inspectors, etc., must be a heavy burden to be borne by so few people, and some much-needed improvements must wait.

The occasional experience of difficult roads is, however, not necessarily a hardship to a visitor. It added the spice of variety to the trip and made me appreciate to the full the better roads when I met them again. It made me appreciate something else, too—the generous welcome that is given to stranded travellers by even the most humble homesteader, were he Norwegian, Ukrainian or Scot. Three times, after feeding and housing us till next morning, they refused to take payment or reward. Can one fail to feel warmly for a land whose inhabitants are as generous as it is by nature?

I had already decided that this "hospitality of the West" was no fable. I thought the tradition might have sprung from the days when travellers, being few and far between, were welcome as bringing news of the outside world; but I found it goes further than that. It is also the tradition for the isolated cabin to be left unlocked so that wayfarers may enter and make use of it if the owner is absent, helping themselves to the firewood and provisions if they need to do so, but leaving it orderly and re-stocked if possible when they go.

This Western hospitality is the one thing that Easterners estimate correctly, though they are as apt to typify the West mentally by log huts and grizzly bears as are other foreigners who have never been to see for themselves. The vast fruit-farming areas, health clinics, chemical works, entomological research laboratories, art galleries, ship-building yards, and even up-to-date potteries, are hardly credited by 'foreigners'.

At Revelstoke there is a new road eighteen miles long, zig-zagging up a mountain over a mile high. At the top there is a fire-observation post and a spacious ski lodge. From here trails run back to mountain lakes and peaks across Alpine meadows thickly covered with wild flowers. Such scenery must exist on many other mountains too, but it is only the more fortunate saddle travellers who are familiar with its sparkling array. Just one thing spoiled the enchantment for me: directly I settled down to paint it I was attacked by mosquitoes. (With scientific attention, the more populated areas, once similarly plagued, are now almost free.) Luckily for me, I had an insect 'dope'. As the summer advances the living carpet of colour becomes even richer. Even when I saw it, with patches of snow still around, wild lupin, small yellow dog-tooth lilies and violets,

The proximity of open unspoilt country is an attractive side to working conditions in nearly all packing-houses and sawmills in Western Canada. The man (above), *with his back to the hills beyond, is working a planing machine in a small Okanagan valley sawmill.* (Below) *An old sternwheeler, typical of many craft plying on the lakes and rivers of West and North-west Canada. Its contrast to the modern streamlined machinery, and its obvious functionalism, are refreshing to the eye of the artist*

Some of the most stimulating things about painting in 'the West' are the clearness of the air, the sparkling colour and the crisp bold shapes of the landscape. Above is the Okanagan Lake ferry at Kelowna, B.C.; below, the pilot plant of the new 'tar-sand' works at Fort McMurray in Northern Alberta. (After excavation the 'rock' is crushed and high-octane petrol and crude oils are distilled out

scarlet Indian paintbrush, large white daisies and the furry mops of mountain anemones were all rampant.

A few weeks later wild rhododendrons and other blooms join the riot. Here and there stand formal groups of closely knit Balsa firs, and behind them lie the ice-crowned peaks of the Selkirk Range.

I 'hiked in' several miles, crossing at one point a rockfall below which one could still hear a mountain stream surging through fallen stone near its original course. I had been invited to use the ranger's cabin, and slept at night on a bed of fir fronds. From the log porch I looked down a smooth grassy slope over a small stretch of water, edged with rocks and fir trees, to a rocky crag. At one side the lake spilled out as a waterfall down a precipitous drop to a valley thousands of feet below.

There is an indescribable satisfaction in having a swim in a cool lake, building one's fire for a meal, and living in a log cabin so surrounded. It is also pleasant and gives you a rich sensation to find, when bicycling along a quiet road, a friendly, but timid black bear padding along in front of you.

Such is the country which lures you on and on, and when you leave it calls you back. You get the impression that you may safely entrust yourself to it, for its expansive generosity will push you into the right shape. All my own plans were altered and remoulded till they were unrecognizable. I had intended to bicycle across to the east coast and back home that way, but the size of this West alone was overwhelming. However, though my own plan faded out, another and better one was pushed under my nose to take its place. A few exhibitions of my Canadian paintings provided some funds, and as the second winter came and the snow and freeze-up settled over the north, I was able to take the train for "an Eastern Canadian port" and sail with a load of about two hundred paintings of "Life in the West".

If the display of these sketches in a number of English towns can help even a little to encourage the transplanting of some budding industries to such a fine new setting, these last two years of mine will have been well spent. For the skill and craftsmanship of the Old World and the initiative of the New may well combine to solve some of the problems of both.

With to-day's greater knowledge of industrial and town planning such a scheme should also be able to enrich and not to disfigure the landscape. It might even be a good opportunity for some sound post-war reconstruction.

Wheat in the Peace River district has won many of the world's grain-growing championships

Limelight on Madagascar

by A. M. CHIRGWIN

THE seizure of Madagascar by British forces on May 5 was one of the most dramatic surprises of the war and focussed the attention of the world upon an island that has never received the recognition which is its due. Always overshadowed, both on the map and in the mind, by the sheer bulk of Africa, it tends to be thought of as "just an island" or as an appendage to the African continent, whereas it is a thousand miles long and the third largest island in the world, and, so far from being associated with Africa, its real affiliation is with Asia. The war, however, has rescued Madagascar from oblivion by bringing the Allied supply routes for India, the Persian Gulf and the Red Sea close to its shores, and by making it the scene of a daring invasion.

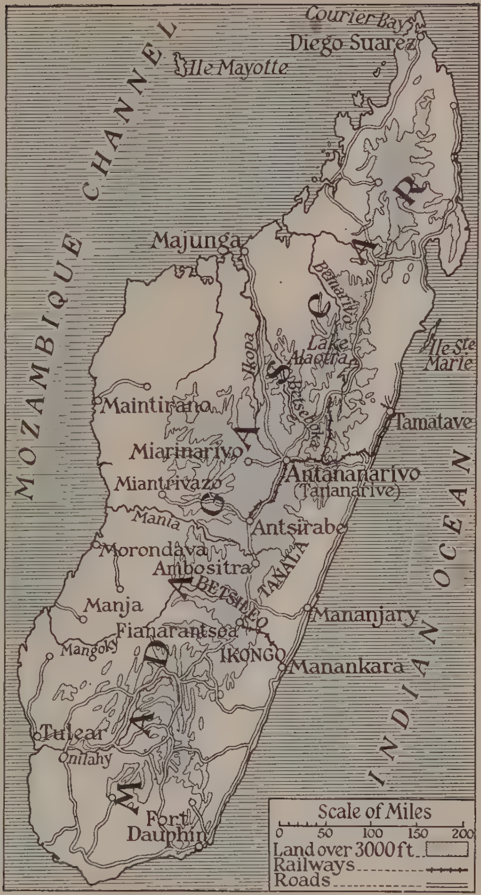
For nearly fifty years Madagascar has been a French colony, with considerable commercial and cultural intercourse with the mother country. But after the collapse of France a curtain descended and cut it off from the outer world. Its export and import trade ceased, the coming and going of people stopped, and authentic news of it was hard to come by.

To enter Madagascar from Africa, as most travellers do, is to step into a new world. In Africa there are lions and elephants, koodoo and giraffes, and many other kinds of big game; while in Madagascar the only wild animal is that lovely little bright-eyed creature, half monkey, half squirrel, the lemur. In Africa there are pythons and cobras and other poisonous snakes; in Madagascar there are no deadly snakes at all. In Africa the huts in which the people live are always round; in Madagascar they are always square. In Africa the people are black with short kinky hair; in Madagascar they are brown and their hair, at least the women's, is long and straight.

The coastal area is low-lying, hot and steamy, and the vegetation is rank and tropical. Great raffia palms grow, mango trees and graceful bamboos. Butterflies are everywhere; budgerigars flit about; blue jays flash by in the sun; and the cardinal bird, in its flaming scarlet coat, swings on the top of the bulrushes.

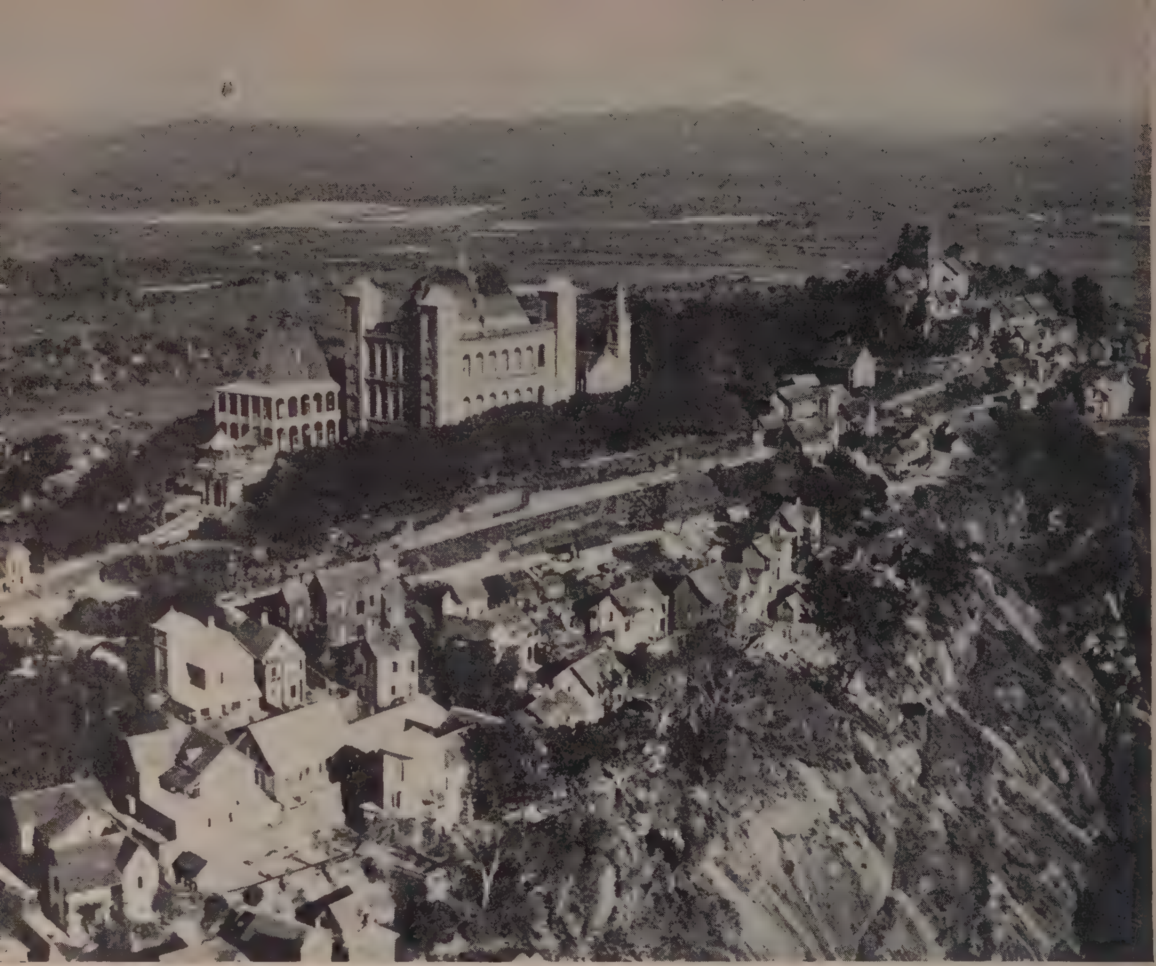
The greater part of the island consists of a plateau three or four thousand feet above the sea. On these stretching uplands great herds of cattle graze, while in the irrigated valleys rice grows freely. Taken as a whole the island is thinly populated: roughly, 4,000,000 people to 228,000 square miles, or approximately fifteen persons to the square mile. Hitler is said to have had his eye on some of the more sparsely populated areas as a dumping-ground for Jews. The population gets denser, however, nearer to the capital, Antananarivo, or, as the French call it, Tananarive. The central province is at least as densely populated as the average rural area in the tropics, while within a twenty-mile radius of Tananarive half a million people live. In this part of the island there are villages every few miles along the road. If it is market day there is much coming and going, with bananas and mangoes, sweet potatoes and rice, grass mats and earthenware pots.

Tananarive itself is built on the sides of a ridge that rises steeply out of the rice swamps. Crowning the highest point is the old royal palace, now a museum. In the whole city there is scarcely a quarter of a mile of level road, and not even San Francisco has steeper streets. The Malagasy houses seem to cling to the slopes of the ridge, and dotted about among them are modern houses in the French style. There are glass-fronted shops where Paris frocks and high-heeled shoes can be bought, and across the road are little stores where they sell home-made lambas and straw sandals. In the street motor-cars and bullock-carts jostle one another; and on the pavement one group of men will be talking French and wearing Paris-made suits and patent-leather shoes, while the next group may be speaking Malagasy, walking barefoot and wearing lambas round their shoulders. (The lamba is the national garment of the Malagasy. Like the shawl of the Abyssinians it is worn close up to the throat and with a double throw over one shoulder. The lamba for daily use is white, but the *lamba mena*, which is reserved for special occasions, is as many-coloured as a Scottish plaid; and as with the plaid its design and colouring differ from tribe to tribe. To be presented with a lamba mena is a special honour and at the recipient's death it becomes his shroud.) A similar mingling of European and Malagasy may be found in any of the larger centres of population, and especially in Fianarantsoa, the southern 'capital' of the island, and Antsirabe, the one Malagasy spa.



Stanford, London

Homes in Madagascar are not dark one-roomed huts; they are two- or even three-storeyed houses. The ground floor is usually a kind of family store-room where the implements are kept and where the chickens roost at night; the next floor is taken up with the living- and sleeping-rooms; and the attic is the kitchen! In fact the Malagasy word for kitchen means "under the roof". The advantage of this arrangement is that the living-rooms do not get hot or smoky.



Paul Popper

Tananarive, standing on a steep ridge and crowned by the Royal Palace, which, built 70 years ago, superseded the earlier palace, seen on its left. The two, with the adjoining church, were used as a museum by the French

Tananarive, which is about the size of Reading or Rochdale, is linked with every part of the island by a network of roads. Roads are probably the greatest contribution the French have made to Madagascar. No hills are too steep and no contours too difficult, and many of the roads are triumphs of engineering. It is not merely between big towns that they are built. Even between a small village of fifty houses and the nearest township where an administrator lives there will be found not a narrow lane, but a built road. Some of the roads, especially those linking the capital with the chief towns, are metalled and provided with deep gullies at the side to take off the storm water when the tropical deluge comes. Every twenty miles or so along such a road is a cluster of huts where the road-gang lives that keeps that section of the road in repair. The best road of all, leading from Majunga to the capital, is open at all seasons and has two bridges across the river Betseboka. Some of the other roads are metalled, but most of them are of earth and can be used only in the dry season. As compared with nearly 500 miles of railway, all of which is single track and narrow gauge, there are over 15,000 miles of roads in the island. The secret of the good road surfaces is that the French require ten days' labour

Paul Popper

South of Fianarantsoa are the rugged Bara mountains. This picture shows the foothills, mostly grass-covered with granite outcrops. The road in the foreground runs from Madagascar's capital to Fort Dauphin, its southernmost town

from every Malagasy male over sixteen years of age except when they are teachers, pastors and doctors, and the first object of this labour is the building and maintenance of roads. For the French know well that there are few civilizing agencies more effective than roads: a commerce of ideas as well as of commodities springs up wherever a road is built, and the French administrator is at least as keen on the passing and repassing of ideas as of commodities.

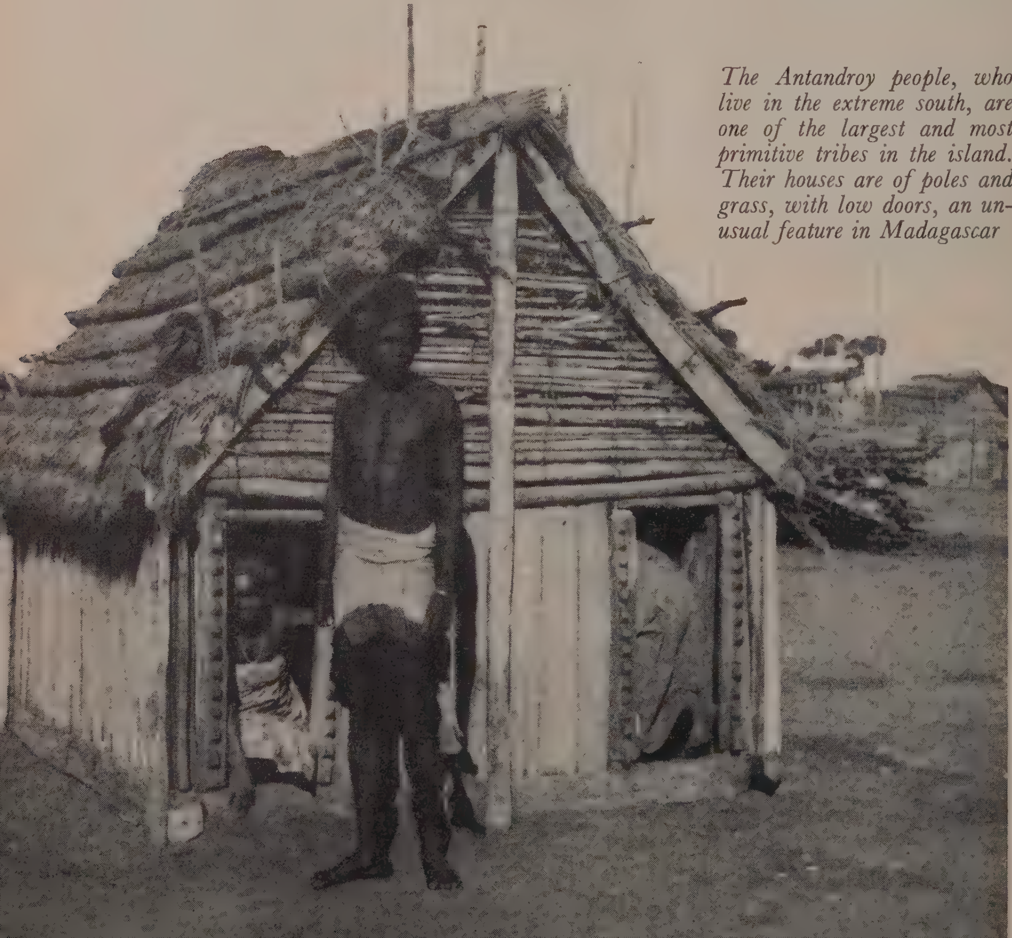
In road-building, as in so much else, the French are the residuary legatees of Rome: their colonial policy is that of ancient Rome applied to modern times. Their practice is to grant citizenship, with its attendant privileges, to a certain number of chosen individuals. This, in course of time, comes to be regarded as a coveted distinction, and it is not uncommon for a Malagasy to affirm with obvious pride, "I am a French citizen."

The possession of French citizenship has certain definite advantages. The citizen who lives in the colonies is entitled to all the rights and privileges of those born and brought up in metropolitan France. He comes under the same legal code as other Frenchmen; he can vote at elections, mingle in metropolitan society, enter the official services, or stand for posts of public honour and emolument. On the other hand he is expected to give up his tribal practices, break with his cultural heritage, and exchange local patriotism for loyalty to the Republic of France. He must, in a word, become a Frenchman. Most Malagasy to whom the offer of citizenship comes, respond eagerly and are willing to pay the price, but a few, with nationalist leanings, look on it with disapproval.

The same policy is pursued in the field of education. The French believe that it is their mission to spread French culture, and they regard the school as the most effective means to that end. A visitor to a school in Madagascar would find that it is run just like a school in France, with the same subjects and the same methods. French is the medium of instruction, except in the elementary classes; French history and French literature, not those of Madagascar, figure in the curriculum; and the possession of the French *brevet* is the sole avenue of advancement. The educational ladder in Madagascar is an entirely French one and its topmost rung is admission to the universities and learned societies of France.

The majority of the Malagasy people are not African either in appearance or in blood. They came originally from Malaya, bringing a strong Polynesian strain with them, and since that time they have been considerably Arabized. The Hova people, as they are called, conquered the aboriginal inhabitants, imposing their language and culture on the whole island, and maintaining their rule till the French conquest in 1895, when they turned their keen minds from the business of government to that of trade. They have now become a nation of shopkeepers.

The Malagasy as a whole are an artistic people and clever with their fingers. They have small delicate hands and quickly learn to produce embroidery and woodwork of great merit. Long before the Europeans came they wove grass mats and cotton lambas of real beauty and prepared their own dyes and designs. The claim has been made, probably with some exaggeration, that the



The Antandroy people, who live in the extreme south, are one of the largest and most primitive tribes in the island. Their houses are of poles and grass, with low doors, an unusual feature in Madagascar

Malagasy are the best natural artists of the southern hemisphere.

To find the present-day representatives of the aboriginal inhabitants it is necessary to visit one or other of the mountain or forest tribes, as for example in the Ikongo forest on the falaise where the high plateau falls away towards the east coast littoral. The Ikongo forms part of the great forest belt that stretches for some 500 miles from north to south, and about fifty from east to west. The people are Tanala or Betsimisaraka or Sihanaka. They are negroid in appearance, dark-skinned and fuzzy-haired, with scant clothing and little brimless grass hats that look for all the world like inverted basins on their heads. In their country the foliage is rank and tropical, the grass grows as tall as a man and the creeping cactus climbs up trees, feeling its way along the boughs, and drops its twisting stems like so many snakes suspended in mid-air.

The houses in which these forest people live are not, like those of the Hova, built of sun-dried brick, but are flimsy affairs of split bamboo and banana leaves, raised a foot or two from the ground like American frame houses standing up on stilts. Forty or fifty such huts make up a fair-sized village, which as often as not is perched on the top of a small hill. Dotted about among the huts are tiny replicas, like dolls' houses, also raised from the ground. They are fowls' houses on stilts, out of the reach of rats. Down in the rice-fields bamboo platforms are erected some ten or twelve feet from the ground, generally with a rough shelter on each. There, in the season, grown-ups or children will sit through the livelong day, keeping the birds from the ripening rice. Here and there in the fields are taboo poles, which scare off would-be thieves, and near the villages are little heaps of stones, with one or more flat stones laid on the top, these latter black with grease or dotted with the remains of offerings to the ancestral spirits. Two-thirds of the people of Madagascar are still animists, most of the remaining third being Christians.

The Marofotsy or the Tsimihety are the mountain tribes of the north. They live on the uplands that stretch from the shores of

Ambositra, almost under the shadow of the Ankaratra mountains, is the centre of a well-watered rice-growing area in the heart of the island

Paul Popper

E.N.A.

Paul Popper

(Left) *The old Malagasy law-court is situated half-way between the Royal Palace and the prime minister's house in Tananarive. On the gable-end is the old Malagasy symbol of authority: a sharp-pointed spear with an inscription meaning 'not loving falsehood', that being also the name of the spear.* (Right) *Village scene on the eastern side of Madagascar. The straw caps and the somewhat negroid features of the villagers are characteristic of the forest tribes. The houses are of banana leaves and split bamboos fastened to poles*

Lake Alaotra, Madagascar's only lake of any size, northwards to Diego Suarez. They are cattle owners and not infrequently cattle thieves: their beasts are their only wealth and they guard them day and night with special care. When one of these cattle-men dies a great feast is held and cattle are slaughtered in numbers that increase with the importance of the man. In some cases the numbers have been so great that the French authorities have had to fix a limit.

Although only about two per cent of the whole country is under cultivation, largely owing to lack of labour, the soil in general is fertile, and at least a third of the population is employed in agriculture and stock-raising. The principal crops are rice, manioc and maize, cultivated mainly by small native growers in almost every part of the island. Madagascar's resources in foodstuffs are so considerable that the Governor-General assured Vichy, more than a year ago, that the blockade did not bother them and that even if Madagascar could not sell her goods abroad at least she could keep alive on her home-grown produce. There are over 7,000,000 head of cattle in the island, and great quantities of cereal foods are grown. Nearly half the world's vanilla comes from Madagascar and there are considerable exports of coffee, raffia, hides, graphite and mica. The island will never run short of food, but, cut off from imports as at present, it is hard put to it for petrol, paper, machinery and medical supplies.

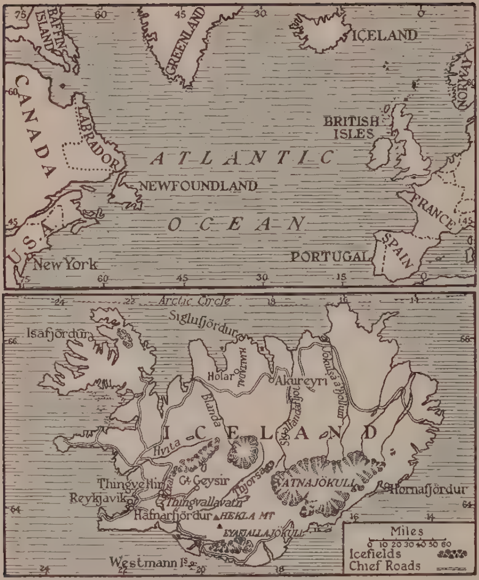
France takes three-quarters of Madagascar's exports, supplies approximately three-quarters of her imports, and carries most of these goods in French ships. In spite, however, of this valuable commercial intercourse the island appears to be administered with strict economy and almost with parsimony. It is said to be an expensive colony to France. If that is really so, the reason must be sought in the large sums spent on the fortifications and naval dockyards at Diego Suarez. The dry-dock there, finished in 1936, is said to be able to accommodate a 26,000-ton battleship.

The coast as a whole is inhospitable, and considering the length of the coast-line the ports are few and far between, the chief being Tamatave and Mananjary on the east, Fort Dauphin on the south, Tulear and Majunga on the west, though none of these is really suitable for large liners. Diego Suarez, however, is the third largest natural harbour in the world, and is capable of considerable development as a port. With its bays within a bay it can offer safe and deep water anchorage to any number of ships of the largest capacity.

The population includes 25,000 Frenchmen, 8000 Indians, 3000 Chinese and a few thousand others. Fully ninety per cent of the

(Above) *Rice is the staple food and chief export of Madagascar; its cultivation, or at least its planting, is the work of women.* (Right) *A Tanala woman. Her people live on the eastern slopes of the great plateau of Madagascar. They are experts at weaving the baskets and rough cotton cloth as displayed here* *Paul Popper*

Malagasy are pro-British. The Indians and Chinese are for the most part well-disposed, while the vast majority of the French *colons* desire friendly relations with Britain. When France fell the Governor-General, M. de Coppet, was a firm friend of Britain and a convinced believer in *l'entente*. He was quickly replaced by M. Cayla, who had been Governor-General some years earlier. M. Cayla's return marked the beginning of an anti-British régime. The civil service was thoroughly combed and the local press was used to stir up anti-British feeling. In all probability this did not go very deep, and was more official than popular. British people in the island suffered no personal ill-treatment, though they had to conform to certain requirements and they found it wise to walk discreetly. After about a year M. Cayla was recalled, for what reason has not yet transpired, and M. Annet, the present Governor-General, was sent out to take his place. M. Annet, who is not so pronounced in his anti-British views as his predecessor, is said to have relaxed some of the rigidity of M. Cayla's régime, but as a loyal servant of Vichy he felt he had no option but to offer resistance to the British landing at Courier Bay. If the result of the British occupation should be the speedy resumption of trade relations with the outer world there would be widespread satisfaction in Madagascar.



A Visit to Iceland in War-time

by NICHOLAS DREW

In July, 1940, Mr Seton Gordon gave our readers an impression of a peace-time visit to Iceland. Mr Drew now shows some of the ways in which the war has affected life on an island of such immense strategical importance in the Battle of the Atlantic

I FIRST saw Iceland a year ago from the bridge of a corvette. This year I was lucky enough to make a second journey to the island, now one of the major stations in the Battle of the Atlantic, to see something of its eerie, impressive landscape, and to note the impact of the war upon a peaceful community which has so definitely eschewed all martial activities that it has no army and uses its few aeroplanes to spot fishing shoals, deliver the post and protect its fisheries.

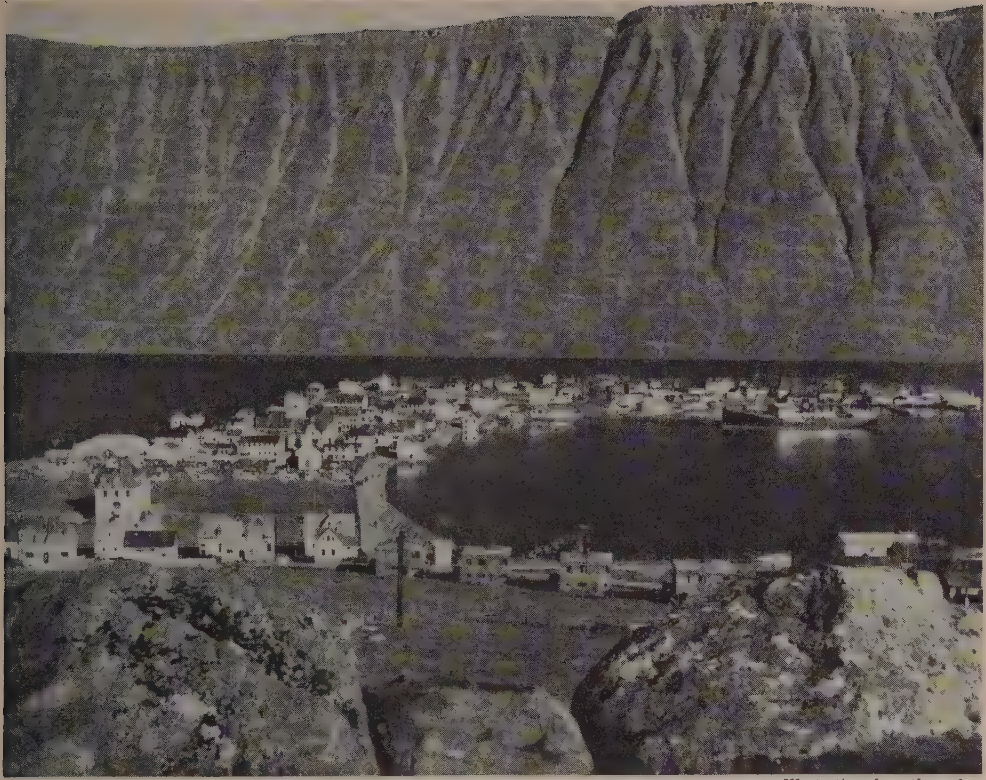
This time I travelled in a Sunderland flying-boat. We left a Scottish base early one summer morning and sighted the Westmann Islands away on the starboard bow at about 2.30 P.M. and the mainland a few minutes later. The coastline was bleak, the mountains were misty and snow-sloped. The earth seen from above appeared pitted and scorched. Far away to starboard, desolation continued to the great ice desert of Vatnajökull; to port was the ragged coastline, with the thin thread of the tide, toy-like and slow-moving—as the sea always seems from the air. I tried to pick up Hekla far to starboard, but turned to the coast again when a voice said, "That's Hafnarfjördur!" and looked down onto a small fishing village, its single street strewn along a minute stretch of the coast. The houses were coloured like those in Scandinavia, pink, blue, brown and white.

Along the coastline to the north were the long wedges of the fjords, driven far into the land. We made our landing in a fjord near Reykjavik, the capital; there was a sudden plop as we raced and hit the water, and then, inside the plane, a relaxing of limbs after the long flight.

I was taken ashore in a R.A.F. launch and met by a 'Wavy Navy' lieutenant. After formalities we moved through the barricade to a waiting taxi. Almost immediately I had my introduction to a characteristic of young Icelanders of today: a lust for speed. The taxis are usually 30 horse-power American saloons and are driven with the verve and audacity of the peace-time Paris taximen. I was told that a large consignment of these cars had been shipped from the U.S.A. to Denmark just before the German invasion. The Hupmobiles and Ford V.8's were put ashore at Reykjavik, and are now taxis.

That evening I had dinner with the Navy: soup, fish, a cream sweet rather like a rhum baba, and coffee. The fish was unbelievably good to one just come from England: "If the food is always like this," I said to a lieutenant, "I shan't want to go back." "You would after you'd had it through an Iceland winter," he said.

I spent most of the next morning wandering around Reykjavik. My first impression was that it is rather like a gold-rush town which thinks it ought not to lose interest in the cultural side of things. It has poor streets, rutted and acutely cambered, but relieved by several attractive buildings, particularly the new university on the outskirts of the town. Skilful use is made of corrugated iron of which six out of ten houses seem to be con-



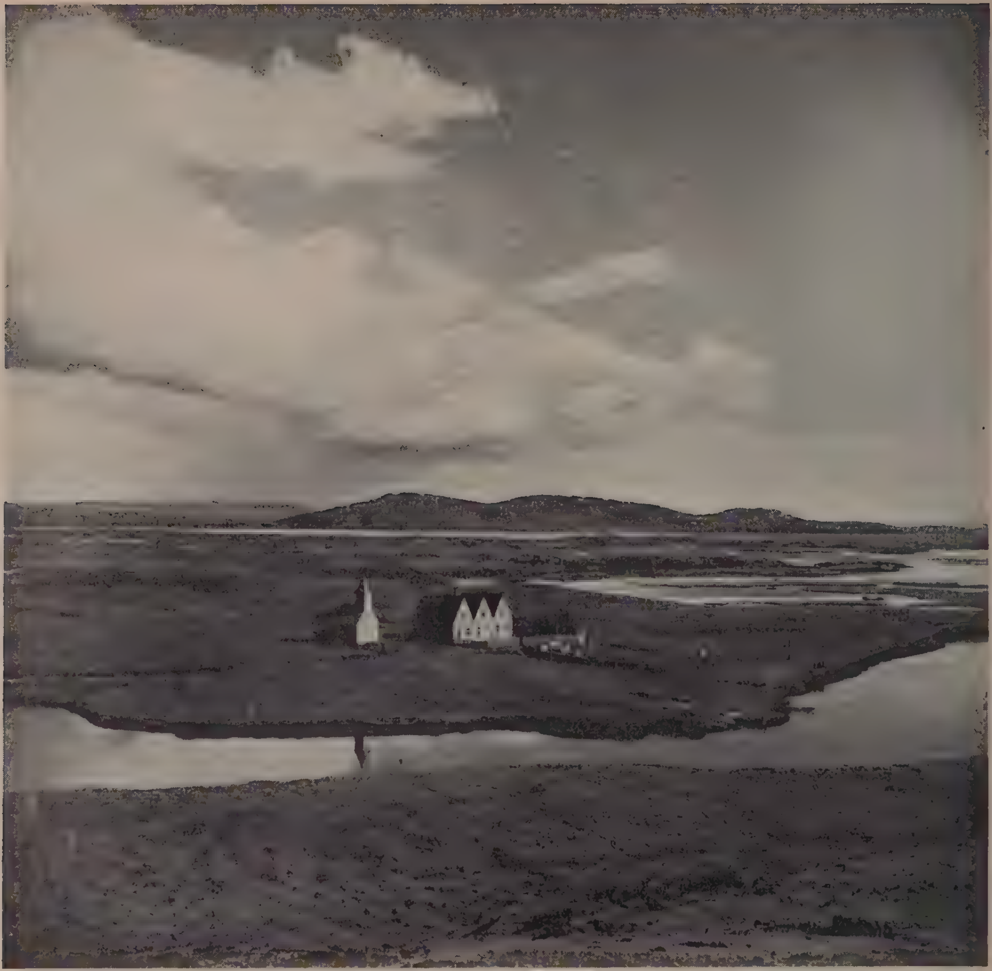
Illustrations from the author

Isafjördur, the biggest town in north-western Iceland, is sheltered by basalt mountains. It is the Easter ski-ing centre for many Icelanders

structed; yet, by the cunning introduction of colours, the general effect is charming, especially from a distance. It is this skilful use of colour which gives the impression from the air that Reykjavik is a pleasantly timbered, painted town in the Scandinavian tradition. This tradition in domestic architecture is found in Reykjavik, Akureyri and Isafjördur, where the corrugated-iron sheets are deliberately made to simulate the steeply pitched roofs and emphatic eaves seen so frequently in Norway. The houses in the Túngata, one of the residential areas of Reykjavik, for example, have these characteristics and are painted in grey and blue and dark brown. Side by side with the steep-roofed houses are those with flat roofs in a quasi-Teutonic style, which fit well into the harsh landscape.

The streets of the capital are filled with American and British sailors, soldiers and marines, Norwegian airmen, R.A.F. pilots and mechanics. The Danes had made a very thorough job of mapping the island. When the Germans overran Denmark they were able to augment their knowledge of the island, with the records in the Geodetic Institute of Copenhagen, which for many years had employed some of the foremost surveyors and explorers, both British and Danish, in mapping the island.

I met many of the British army technicians now engaged on survey work, ranging from a young cartographer who had known Iceland in his Cambridge days to a sapper captain with a string of engineering degrees to his name. They were all engrossed in their tasks, and contributed to the impression that the army was doing much practical work in introducing modern systems of communication and bring-



Church and cottages at Thingvellir (now a National Park), where the Althing, Iceland's Parliament, met from 930 to 1798. The name—'thing', a court of justice, 'vellir', plain reflects the Scandinavian practice of administering law in the open air, and it was not until 1690 that the Althing met within walls

ing Reykjavik's water supply into line with that of the larger capitals of Europe.

There is so much daylight and so little night during the short Icelandic summer that no visitor with normal curiosity and the perambulating instinct goes to bed at a reasonable hour. Reykjavik has what is quite an institution on these summer nights: two or three tricycle tradesmen who sell a sort of sweet tyrolean cake and 'hot dogs' from their machines. One early morning I came back into the town and bought one of these hot dogs, crushed in a roll with mustard. Standing by the tricycle, I began to talk to a R.A.F. squadron-leader. He was waiting for a ship to take him to Canada where he was to train some of the Empire's fledglings. I asked him what sort of meat was in the hot dogs. He said "Pony!" I felt a momentary revulsion, but was relieved to find that I could continue to eat with relish.

Thingvellir is Iceland's foremost showplace. In peace-time it drew crowds of holiday-makers from the luxury liners that put into Reykjavik for an afternoon. British troops discovered it soon after their arrival

Reykjavik, (top and left) *capital of Iceland, which contains many types of architecture, from battlemented towers to steeply pitched Scandinavian eaves.* (Right) *Houses at Holar in Hjaltadal, seat of the most ancient bishopric in Iceland. It now consists of little more than the group of cottages shown here, but from its printing presses came the earliest copies of the old Icelandic sagas*

and it is now one of their favourite haunts when off duty. For Icelanders it has sacred historical associations, for the Althing, or national parliament, met here every summer from the year 930 until 1798. During the later years of that long span of summer sessions, the desolate lava plains were transformed into tented encampments, interspersed with booths of turf and stone, erected for political orators.

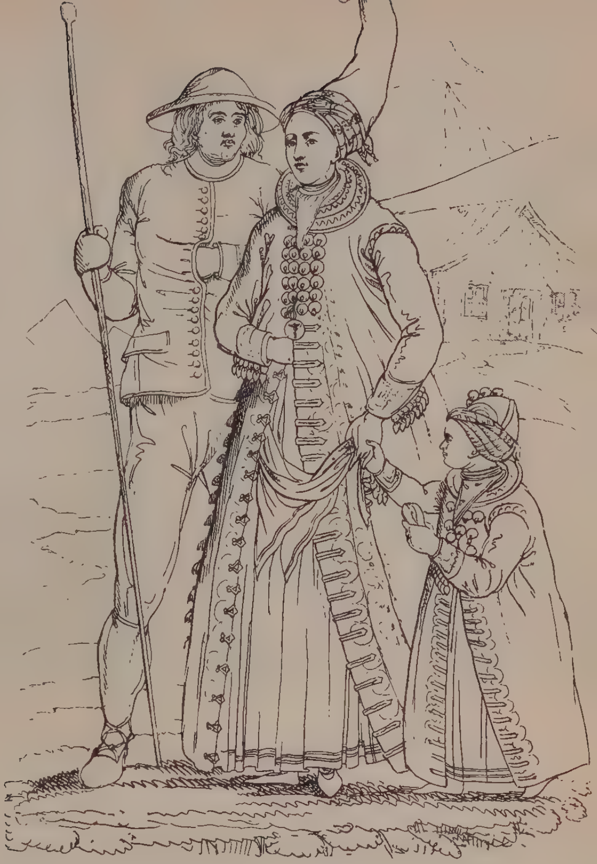
The River Oxara, flooding into the magnificent waterfall and into the Thingvallavatn, the largest lake in Iceland, forms a gentle contrast with the lava fields. Sir George Mackenzie, one of the first 19th-century British travellers to visit Iceland, then almost unknown, wrote of Thingvellir: "It is a spot of singular desolation; on every side of which appear the most tremendous effects of ancient convulsion and disorder; while nature now sleeps in deathlike silence amid the horrors she has formed." The "deathlike silence" was shattered during my walk across the lava plain by the sudden appearance of Bren carriers rattling across the "singular desolation" with singular liveliness!

The Great Geysir, popular with tourists on peace-time cruises to the Northern capitals, is also well patronized by the soldiers. One Sunday morning I was taken to the Geysir in an army lorry making one of the periodical trips wisely arranged by the army authorities. The lorry was heavily loaded with infantrymen and our journey over the rough roads and tracks was lively and noisy. The heights to which the water of the Geysir rises vary, but there are records of the column reaching well over 200 feet.

A third, though less visited, centre of interest is Hekla, that mountain of legend which owes perhaps more to its history than to its nobility of outline or those other mountain virtues which have moved writers from Whymper to Smythe to enthusiasm; for in beauty of form Hekla is not outstanding. It takes its place in the surrounding landscape as an impressive height, lacking shapeliness, and it is certainly less spectacular as a peak than the Three Horned Mountain between Hekla and the Eyafjallajökull.

How do the Icelanders react to the occupation of their island by foreign legionaries? Certainly the more progressive leaders of the community, particularly the commercial leaders, see, in what they hope is but a temporary occupation, unusual chances for the development of their country's industrial resources, communications and amenities. Before the war there was a strong movement among leading commercial organizations in the capital to develop the tourist traffic to the island, and the men behind this movement see that much being done by the British army will help such post-war activities. Minor fortunes are being made by shopkeepers and merchants selling to the British and American troops, for with the advent of the American contingents prices have risen. This is probably an inevitable accompaniment to any sudden influx of ready money into a far from sophisticated community; and British 'tommies', with less money than American 'doughboys', are among the unfortunates in

The Great Geysir from an engraving after a sketch made by Ebenezer Henderson to illustrate his book, published in 1814, describing a year's residence in Iceland. Another illustration shows the old Icelandic national dress. The most curious part of the female costume, he found, was the white linen turban "stiffened with an immense number of pins", fastened to the head by a dark silk handkerchief. The man's clothes, as he remarks, resemble those of the Norwegian and Swedish peasants of the day

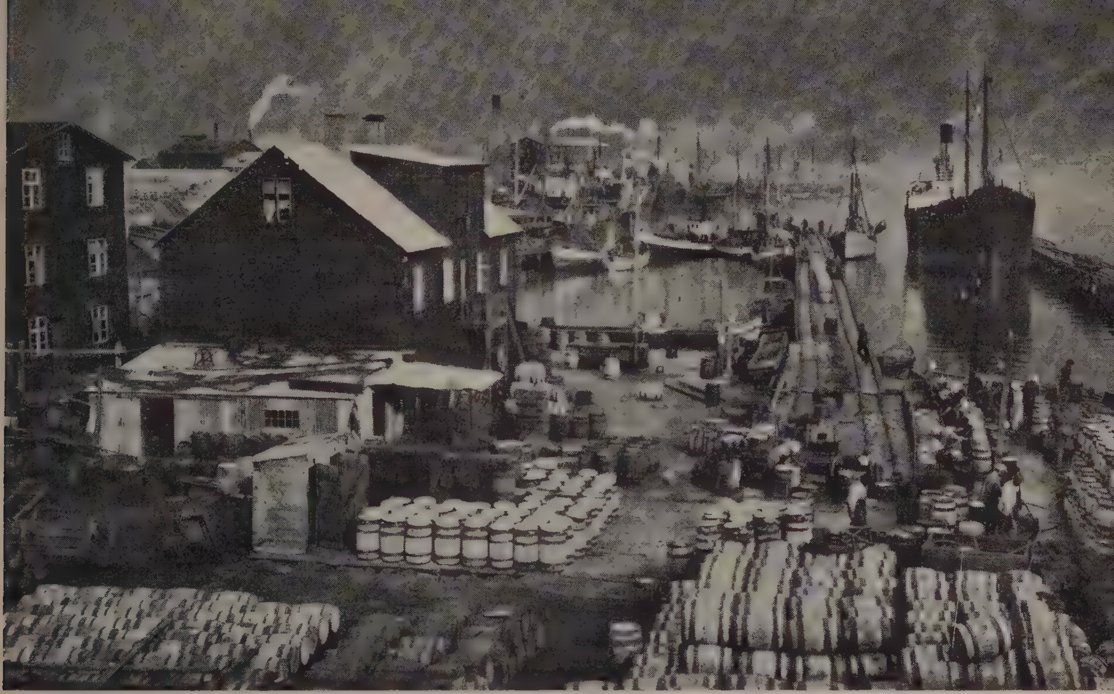


the battle for commodities. Some of the poorer Icelanders view the shortening of supplies with bitterness and alarm. The owners of the fishing fleet, one of the most numerous and efficient in pre-war Europe, have also found the war unprofitable. After one or two enemy attacks, many of the Icelandic fishermen refused to fish; and the vast and profitable European markets which were open to the Iceland fishing interests in times of peace have shrunk, so that only Britain remains. Even the British market cannot be adequately supplied, owing to the difficulties added to the hazards of war, such as labour and price.

Among the mass of islanders, however, there is little resentment. The British tommy, with his genius for making friends with foreigners, is a first-class diplomatic agent for his country. The number of marriages between British soldiers and Icelandic belles increases, despite the frowns with which such contracts were greeted by the men of the island during the first year of the occupation. The Icelandic girls have a high standard of good looks; in the towns they are well-dressed with a tendency to follow Hollywood fashions; but the men show fewer traces of their Viking ancestry than do many of the Norwegians. Occasionally one sees a well-set-up Icelander, usually in the harbours or among the fishing families or on the inland farms, but rarely in the towns.

Remembering the place occupied by the Icelanders in the history of European literature, I expected to find definite and well-established traditions and activities in the fine and applied arts, but in this I was disappointed. There is only a small central art section in the Icelandic National Museum, and no shop exists to act as an art gallery as in Copenhagen, Oslo or Stockholm. This is partly due to the fact that painting as an art was little practised in Iceland until fifty years ago. Before that there were portrait painters, mostly clergymen, but no school of

These two photographs show lakes and mountains near Hornafjördur, a fishing village on the south-east coast of Iceland. The great ice desert of Vatnajökull lies beyond



The centre of Iceland's herring fisheries is Siglufjördur. In autumn barrels are piled as high as the houses along the quayside. In the background a herring-oil and meal factory can be seen

painting, even in portraiture, has been established. In sculpture Iceland claims relationship with two famous names: the father of Thorvaldsen, the Danish sculptor, was an Icelander, and examples of Thorvaldsen's work are to be seen in Reykjavik, particularly in a series of bas-reliefs on the beautiful baptismal font in the Lutheran Cathedral. But Iceland has a more direct claim in the work of Einar Jönsson. Reproductions of his massive memorial to Ingolfur Arnarson, the first settler in Iceland, are to be seen in most of the bookshops and examples of his work are in the National Gallery in Reykjavik.

It is in literature that the genius of the Icelandic people is most deeply established. This tradition continues and the descendants of the creators of the Eddaic lays are found throughout the island. I visited the home of the poet, Snaebjörn Jönsson, who has written a great deal, and is also a translator. His study was closely packed with English books. His shelves, I noticed, housed the Oxford English Dictionary, Fowler's *Modern English Usage* and Eric Partridge's *Dictionary of Slang*. At the time of my visit he was half-way through the task of translating Hardy's *Tess*.

Now, when I see the word 'Iceland' in a newspaper or a book the word evokes many pictures in my mind: small farms in remote and deserted valleys; high-powered American taxis in Reykjavik; the desolate beauty of the lava plains and the blue mountains of the fjords; the peaceful islanders and the uniforms of the legionaries; the general preoccupation of the Icelanders with poetry—I found that almost every educated man writes poetry, looking upon some proficiency in the art as almost a duty—and the posters advertising a Claudette Colbert film; the small red plane of the Icelandic Government and the giant Sunderlands and Catalinas of Coastal Command moving off from Iceland bases upon their unceasing Atlantic patrol; the small, efficient fleet of Iceland fishing trawlers lying off Reykjavik alongside slick American and British destroyers; native ponies moving surely along the pitted plains and army lorries careering madly down rutted roads. Perhaps the scene will include fewer contrasts after the war; the desire to find out will be my excuse for returning to this northern outpost for a holiday.

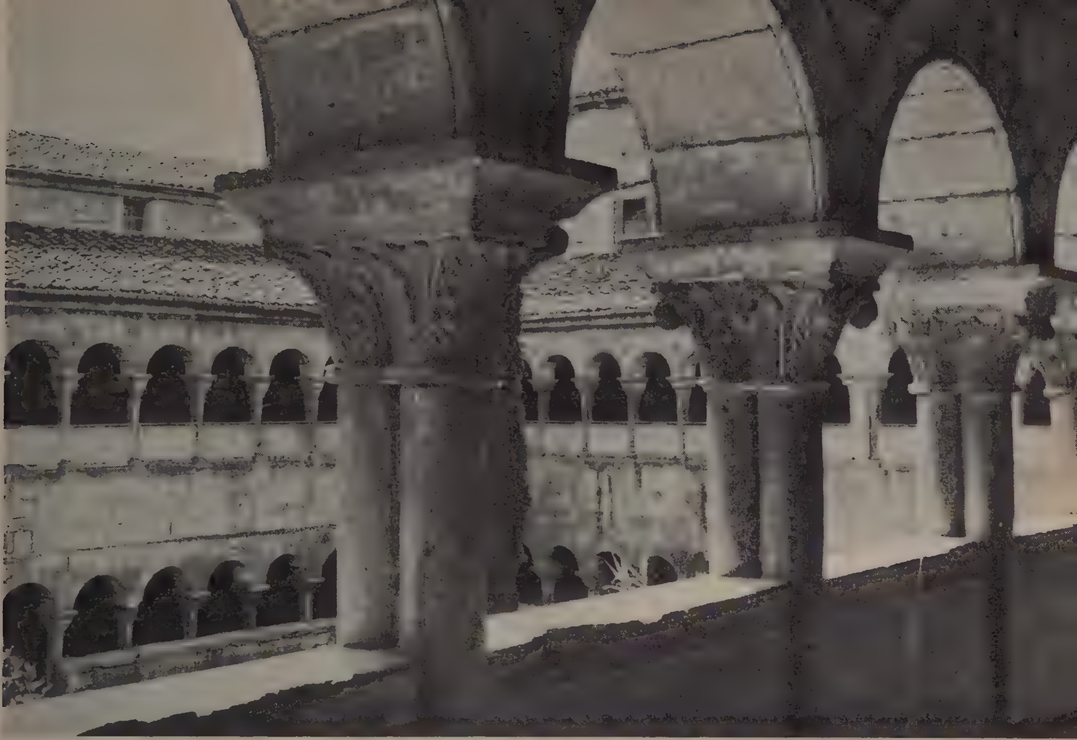
Benedictine Cloisters of Spain

by ARTHUR GARDNER, F.S.A.

Historians of art are apt to take greater pleasure in the primitive periods than in the mature glories of supreme achievement. The great revival of architecture and sculpture in the 11th and 12th centuries is perhaps the most fascinating, and at the same time the most perplexing, of such periods. Questions of origin in a movement which culminated in the great Gothic cathedrals have provided ample material for research and controversy among archaeologists. Theories which derive it from any particular quarter, such as Rome, Constantinople or Asia Minor, are too simple to account for so complex a development and the real solution is more likely to be found in the clash of varied influences from widely separated quarters than from any narrowly defined source. Spain was one of the places where eastern and western civilizations met, and the part played by Spain in this first great 'Renaissance' may prove to have been of more importance than has hitherto been realized by scholars.

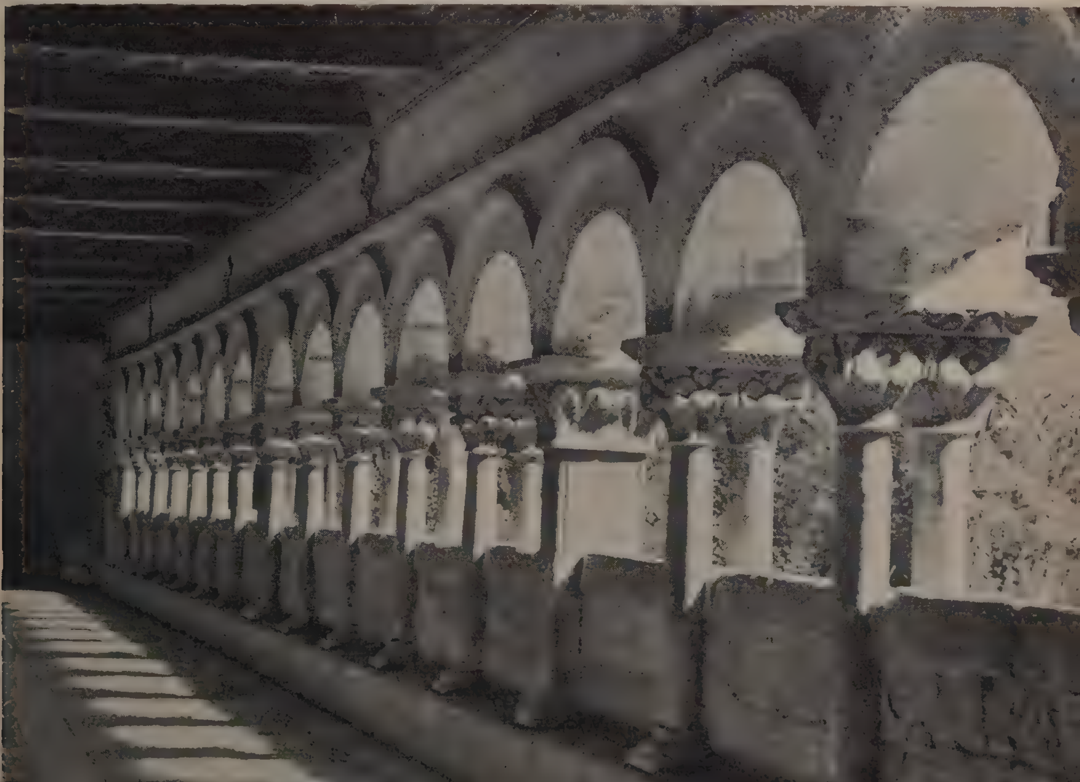
The prime movers in this awakening of architecture and sculpture were the great Benedictine monasteries, which were at the height of their wealth and renown in the 11th and the first half of the 12th centuries. Their growing riches enabled them to house themselves more worthily; their noble churches were far greater than the contemporary cathedrals, and there arose a demand for architectural sculpture to decorate the porches and capitals, and, above all, the lovely cloisters which formed the centre of their monasteries, and in which the monks spent much of their time.

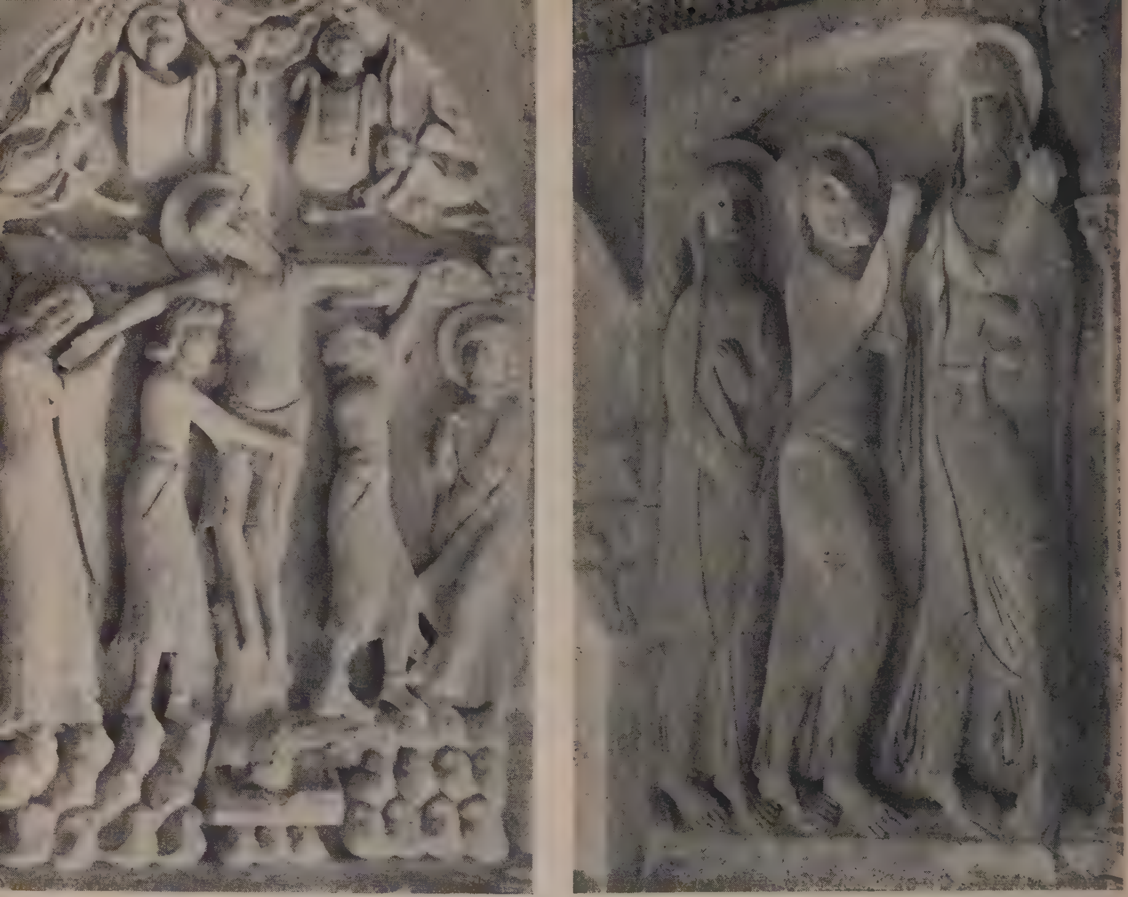
There are many of these 'haunts of ancient peace' in Spain, but the finest is that of the famous monastery of Santo Domingo de Silos, not far from Burgos in a remote valley surrounded by lavender-covered hills. It is also of supreme importance in the history of art as it contains some of the earliest architectural sculpture on a large scale to be found in medieval Europe, and has been the bone of contention in an international controversy over its date and position in the story of the beginnings of Romanesque sculpture. A number of large reliefs illustrate the Descent from the Cross, the angel at the Sepulchre, the Journey to Emmaus, Pentecost, the Ascension and the Incredulity of St Thomas, which are executed in a primitive style with strange conventions but of a certain weird charm, and seem to have been enlarged copies in stone of small ivory panels. The capitals of the arcades are also very interesting, covered with strange monsters and harpies in low relief and intricate patterns, some of them showing reminiscences of Moorish work. One of them bears an inscription stating that beneath it lies the tomb of the St Domingo who refounded the abbey and was buried in the cloister in 1073. The body of the saint was translated into the church in 1076, and Spanish archaeologists claim that the earliest part of the cloister must therefore be dated before 1076. This would give it twenty years precedence over the famous southern French cloister at Moissac, which is dated by an inscription to the year 1100, and French savants are therefore unwilling to grant that a country which their monkish historians had described as comparatively rude and barbarous, and which owed most of its civilization to missionaries from Cluny and other French monasteries, should have led the way in artistic development in the last quarter of the 11th century. They accordingly claim that the capital in question must be a copy of the original made at a later restoration of the cloister. Spanish writers, however, point to



All photographs by the author

One of Spain's finest Benedictine monasteries is that of Santo Domingo de Silos, near Burgos. Above is the upper gallery of the cloisters, which was added in a late 12th-century reconstruction. Below is the lower storey, comprising the earliest work, late 11th century





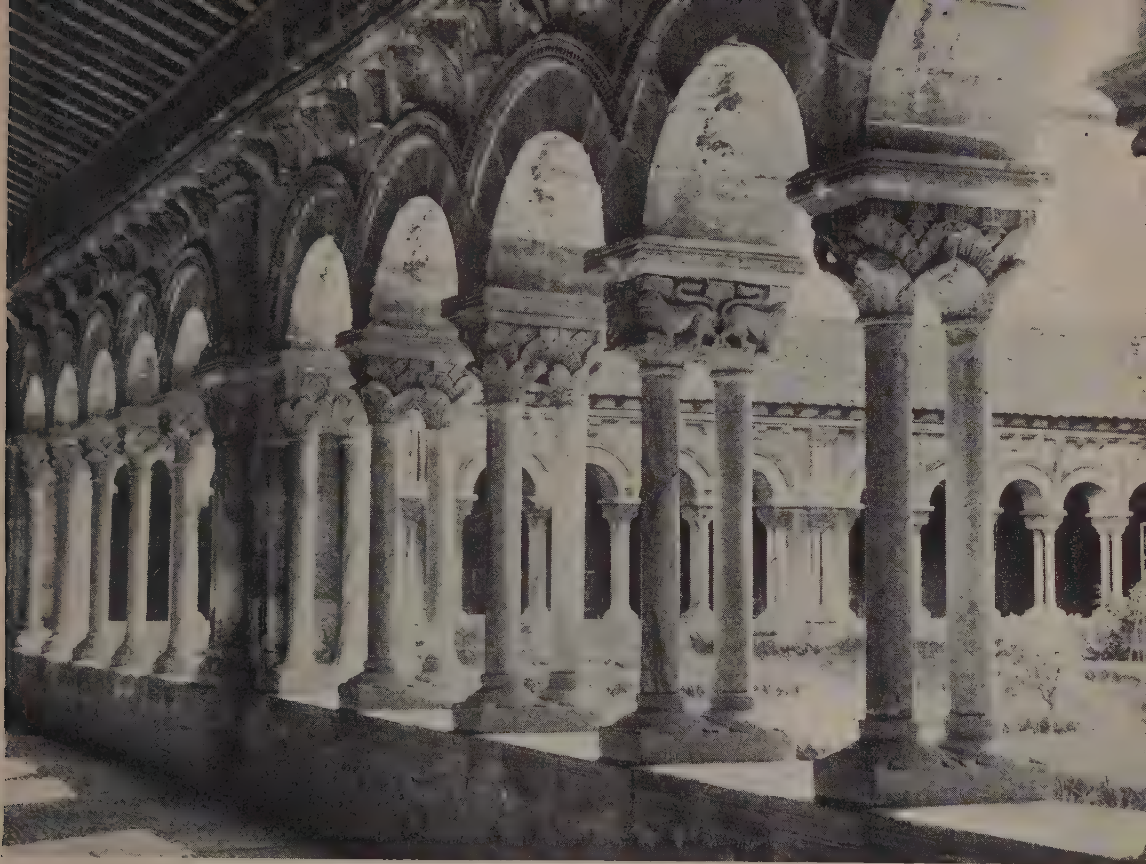
Two primitive reliefs on corner piers at Santo Domingo—some of the earliest examples of large-scale sculpture in medieval Europe. They represent the Descent from the Cross and the Journey to Emmaus with Christ as a pilgrim

other early sculpture at S. Isidoro of Leon and elsewhere, and to a remarkable series of ivory carvings of early date, as evidence that such work was not unique in that region.

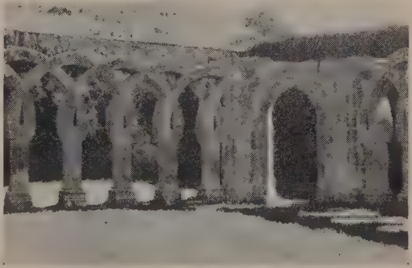
If there is architectural evidence against the present earliest part being so old as is claimed, it can be argued that, as often happened, much of the original carving was incorporated in the reconstruction. If the early date is admitted, it can be explained as due to the association of technique learned from its Moorish neighbours with ideas introduced by the conquerors from western Christendom.

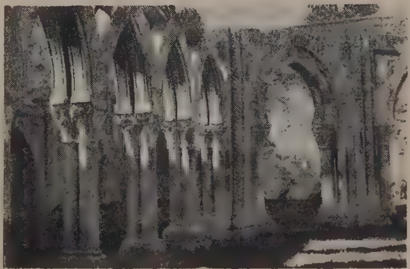
In many ways the Moorish rulers of southern Spain were far more civilized than their Christian rivals. Intercourse was not always hostile, and prisoners and artisans of both Moslem and Christian creeds lived and worked under their opposed rulers. There is indeed a record of a batch of Moorish prisoners being presented to Silos to help in the building operations, and certain capitals in the cloister show strong Moorish affinities.

This Moorish influence is found to be widespread even in southern France; it is evident in the famous Moissac cloister itself, and is



Twelfth-century cloister of San Pedro at Soria, on the banks of the Douro, with richly sculptured capitals carrying on the earlier tradition shown in those from Silos. Below are two arcades of the strange cloister of San Juan, also at Soria. One appears to be rich 13th-century Gothic in character, the other must be due to Moorish influence

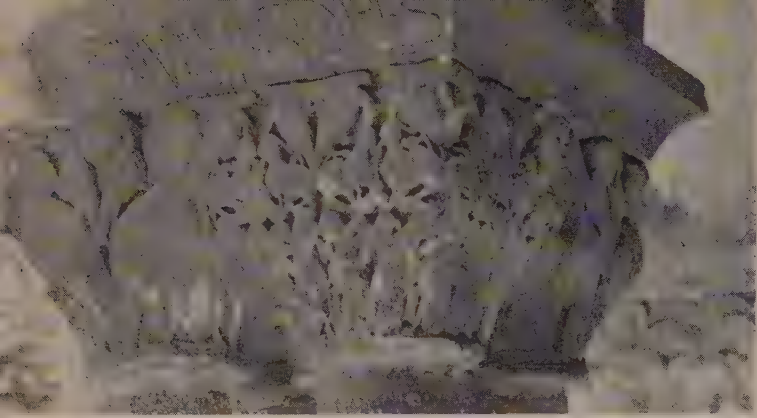




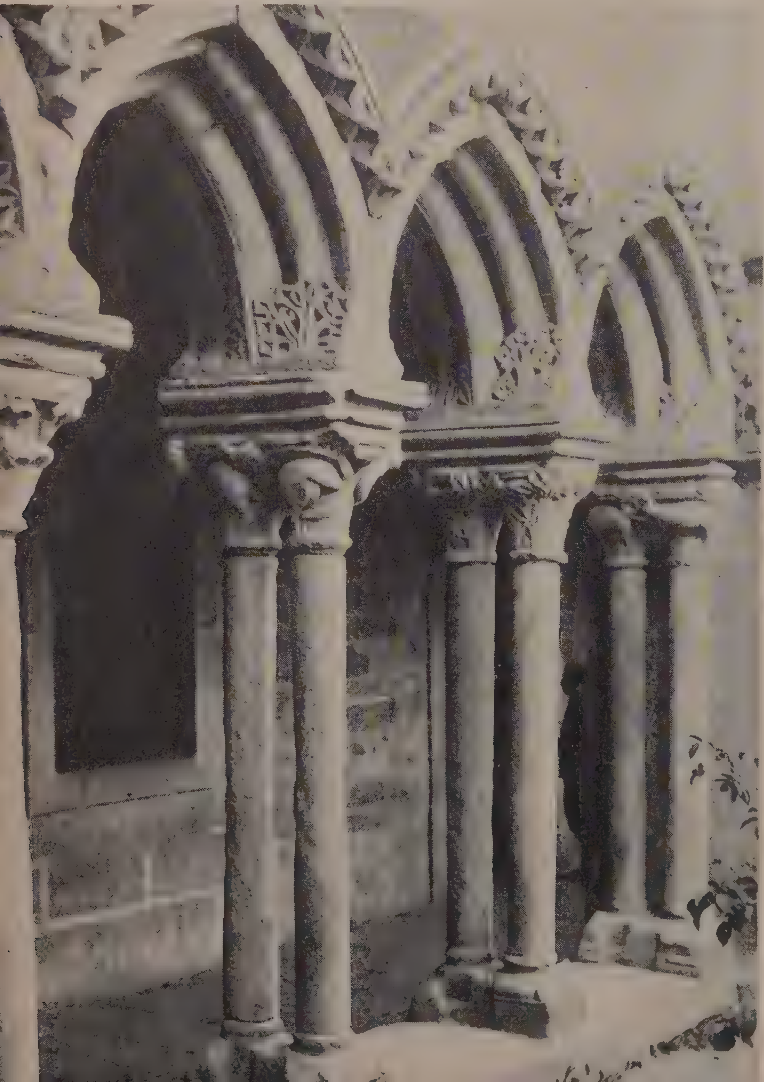
notable at Le Puy, where there is a strange 13th-century record of an offering by Moslems of Spain to the Virgin of that remarkable sanctuary to request protection from lightning for their crops.

There are considerable numbers of other beautiful cloisters still remaining in northern Spain, which afford ample opportunities for the artist and photographer. All we can do here, however, is to illustrate two or three which can serve to show later developments of the type so nobly represented at Silos.

Soria possesses two; the first, that of



A capital of the earliest type from the north gallery at Santo Domingo de Silos with a description referring to the tomb of the saint. This suggests the date of the work to be c. 1075. Below is the cloister of S. Francisco at Orense—a pretty 13th-century example now used as barracks



S. Pedro, is a graceful 12th-century version of the Silos type. It has a great variety of sculptured capitals, though few of them are as interesting as those of their older prototype. The second cloister, that of S. Juan, is in a more ruinous condition; the arcades alone survive and the roof has gone, but these arcades are most remarkable, and differ in each gallery. While the greater part suggests 13th-century Gothic work, with fine mouldings and bell-capitals, one gallery with intersecting arches has a strange effect that can only be attributed to a Moorish design. The doorway arches, too, at the corners, though pointed, bulge out like the older horse-shoe arches of southern Spain.

As a pleasing example of 13th-century work we can take the pretty cloister at Orense. The convent of S. Francisco, to which it is attached, is now, or was until recently, occupied as a barrack, and soldiers mess in the beautiful galleries formerly designed for the monks. One may wonder how far the rougher elements of most armies could be trusted in such quarters, but Spaniards seem to take a great interest in their antiquities, and the present government has an efficient organization to look after ancient monuments, and as far as possible to repair the damage done in the civil war.

A Cistercian Abbey in Portugal

by A. HOUGHTON BRODRICK

IF the prime movers in the first great Renaissance of Spain were the Benedictines, it was the Cistercians who made Portugal. For these 'White Monks' helped Afonso Henriques to expel the Moors, to found an independent state of Portugal and to proclaim himself its first king. In gratitude, he asked St Bernard himself to send Cistercian monks to Portugal there to erect a great Abbey. The first French monks arrived with blue-prints about 1153–4 and by 1222 the mighty church they built at Alcobaça, north of Lisbon at the junction of the rivers Alcoa and Baça, was complete, as we see it today, at least as far as the interior is concerned. Cistercian Abbeys were once numerous in Europe; there were nearly 750 foundations at one time, but Alcobaça is the only one which has survived unchanged. European agriculture owed much to the Cistercians and not least in Portugal where even in the last years of decline the

All photographs by courtesy of the Portuguese Government

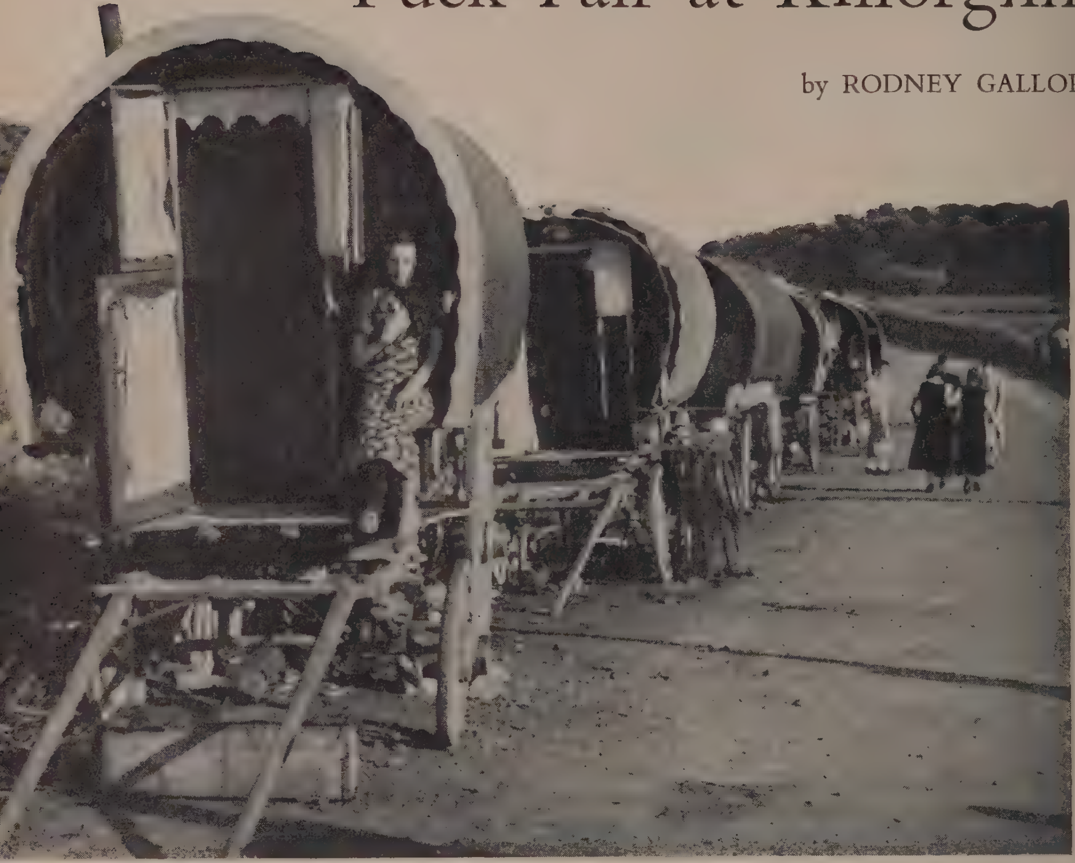
monastery lands were well-kept. Vineyards, olive forests, and fruit orchards at Alcobaça bear witness to this day to the monks' agricultural science.

The Abbey at Alcobaça is comparable in size to the Escorial or Mafra. Within, it is on the scale of the Popes' Palace at Avignon. The outside of the abbey church was, in the 18th century, remodelled as a baroque building, but its gorgeous golden patina and the curious flights of steps to the entrance (that make you think of Goa and Indian things) are charming. Inside, as the illustration on page 189 shows, you are transported to the stern and majestic simplicity of the 12th century, for recently all the gingerbread and flourishes of the baroque have been removed. The floor retains here and there patches of the polychrome glazed medieval tiles.

The great sculptured tombs of King Pedro and Dona Inês de Castro ("she who was Queen after death") have been removed to an adjoining chapel, but these masterpieces of 14th-century sculpture are to be replaced, one in one transept and one in the other so that the greatest lovers in Portugal's story may face each other, as the inscription reads, *Até a fim do mundo*, "until the end of the world".

The gracefully beautiful Manoeline door of the sacristy is seen opposite, through the great pillars of the apse. Beyond is the cloister—one of three—of St Denis (shown above), and although it was unfortunately restored in 1903 it remains one of the glories of Portuguese architecture. The Library and the dormitories are on a sumptuous scale.

Puck Fair at Killorglin

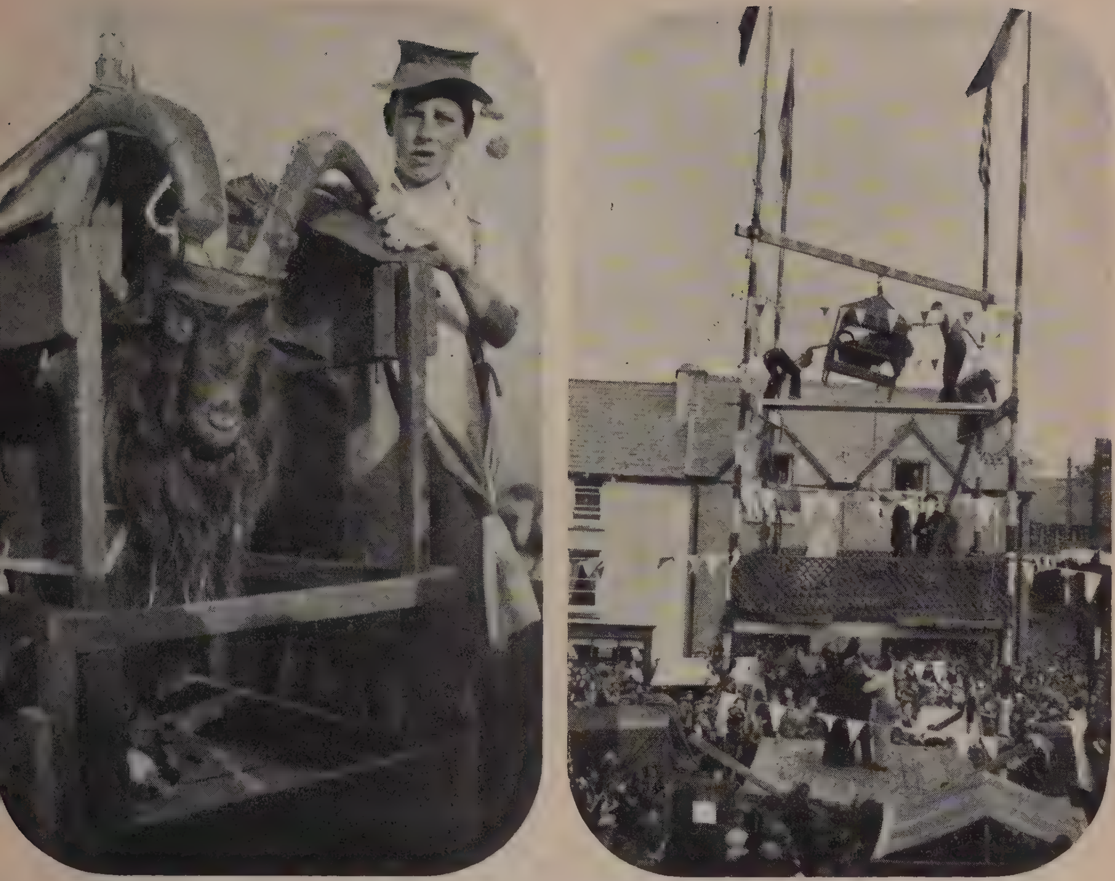


by RODNEY GALLOP

According to the Puck Fair poster, Killorglin, which lies thirteen miles north-west of Killarney in County Kerry, was "the scene of Fionn's greatest episodes and of many events in the lives of Diarmid and Grania". More recently it went through stirring times during what is euphemistically called "the crossness". For all that, it is a drab and dirty little town. The grey houses run down in a purposeless way to the River Laune, their dreary aspect contrasting with the beauty of the surroundings, the greens and blues of Killarney's lakes and the purple splendours of the MacGillicuddy's Reeks, the highest mountains in all Ireland.

Once only in the year, in the second week of August, does Puck Fair bestow on Killorglin a distinction denied to any other place in Erin. The fair is unique not so much for the great concourse of farmer folk from every part of Kerry, as for the sovereign who rules over it, King Puck, "one of the World's few remaining monarchs" (to quote the poster again) "who having survived wars, revolutions and political upheavals and under age-old Constitution rules beyond Party or State". No human monarch is Puck, but a stranger personification of kingship—a great black billy-goat from the rocky crags of the Reeks.

The year I saw it, several days before the opening of the fair, a square tower of scaffolding began to rise at the top of the hill where Bridge Street widens into a small, triangular square (if the Irishism be permitted). It was three storeys high by August 10, Gathering Day, as the first of the three fair-days is called. The little square was a mass of people and above the noise rose the voice of an itinerant ballad-singer hawking broadsheets of the songs which he sang to lovely old Irish tunes.



King Puck, in a coronet of purple and gold, is escorted to the fair in a lorry. His cage is then hauled to the top of the scaffold tower whence he surveys the revelry in his honour for forty-eight hours

The coronation was timed for half-past six "old time", for Killorglin will have nothing to do with anything so ungodly and newfangled as Summer Time. The town had been decorated for the royal visit. Streamers stretched from house to house, and every window was a jigsaw of staring faces.

First, King Puck had to be drummed around the town, and for this purpose a procession formed up on the other side of the River Laune. Across the bridge it crawled and passed twice through the square before coming to rest at the foot of the scaffold. The cortège was formed entirely of small boys. Those in front rode ponies and wore paper jockey caps and sashes of green and white. Next came the Tralee Boy Scouts' band in a cacophonous lorry. In the next lorry was the King himself with his personal suite decked in the green and gold of Kerry. As they crossed the bridge the boys helped me to jump on the running-board and take a flying snapshot of His Puckish Majesty.

The great black goat stood in a green kennel-like structure with open sides and a pointed roof against which, ibex-like, his curling horns stood out in silhouette. Round his forehead was a coronet of purple and gold, and a green-and-purple cloak hung over his back. His bearing was a model of dignified aloofness. To the *lèse-majesté* of my camera he condescended to turn a venerable black beard and the baleful glare of his golden eyes. Then he gazed once more into space.

In the square he surveyed unmoved the cheering populace. For an incongruous moment I was reminded of the French Revolution. Might not the scaffold tower be a guillotine, the lorry a tumbril, and King Puck an aristocrat dying disdainfully before the eyes of the sinister *tricoteuses*? Unceremoniously the green cage was bundled out of the lorry and hauled by a pulley to the topmost tier while the whole tower swayed drunkenly. There, like a Stylite saint at the top of his column, the goat was left, hobbled and tethered, to reign over the fair and its attendant merrymaking. Beneath, a group of school children displayed jigs and reels until a true, traditional dancer came to show them the errors of artificial folk-dance revival with the stiff detachment of his torso and the twinkling virtuosity of his feet.

On the second day, Dispersing Day, we took a turn through the fair. Tinkers had gathered in their caravans from the four corners of Ireland; no gypsies to judge from their fair colouring, but nevertheless a race apart with a jargon of their own. One of their women begged me to let her tell my fortune for luck. "You'll be the father of a Bishop," was her wheedling inducement. In among the crowd their men were trying out all the tricks of their trade, time-honoured and time-worn, such as thimble-rigging and the classical 'spot-the-lady' three-card trick. Great horse-copers like the Romany folk, they were thickest at the horse-fair, dealing chiefly in little ponies with arched necks and stiff, upstanding manes recalling ancient Greek friezes.

Further on were herds of black, hornless Kerry cattle; sheep brightly dipped in blue and red, with bored collies tethered beside them; and the ubiquitous pigs. Over them haggled lean, pre-Celtic Kerrymen, their womenfolk hooded in shawls of black or embroidered fawn. With a handclasp bargains were made and sealed in the nearest public-house over a pint of porter.

All photographs by Rodney Gallop

During the three nights of the fair no one in Killorglin slept a wink. They crowded the dance halls. They overflowed into the public-houses. They were wild with excitement and poteen, 'chain lightning' as it is nicknamed. "What we don't sell to the visitors in the summer," a man said to me, "we use for blasting rocks in the winter." If you hire a Killorglin man anywhere in the neighbourhood, you must give him three days' holiday for Puck Fair (and another three to recover from it, as like as not) or he'll sign no contract with you.

The third day is Scattering Day. In the morning the streets were already emptying, and it was a smaller crowd that gathered in the evening to witness the deposition of King Puck. Apparently little the worse for his forty-eight hours' ordeal, he was escorted to the outskirts of the town, where he was freed and chivied by the children towards his native Reeks.

What is the origin of this strange custom? No one knows with any certainty, and as so often happens there are several legends purporting to explain it. Local pundits will tell you that goats browsing on the Reeks were once startled by a Cromwellian raiding party and, stampeding into Killorglin, gave the townsfolk a timely warning, in gratitude for which they are thus annually honoured to this day. Another version is that the Irish patriot Patrick Sarsfield, lying in ambush near Tipperary, was made aware of the approach of King William's men by the flight of a herd of goats, and it is on record that in August 1691 the people of Killorglin celebrated Sarsfield's victory by parading a Puck Goat bedecked with ribbons.

It might be thought that if the goats were indeed responsible for an Irish victory, their annual ordeal must have made them regret it ever since. But in all probability both explanations put the cart before the horse, and the ceremony is the relic of something far older. The fair used to be held on August 1, Lammas Day, and was shifted to its present date with the change from the Old to the New Calendar. Lammas Day itself corresponds with the ancient Celtic festival of Lughnasa dedicated to the Sun God Lugh, and it must surely be to this festival that the Puck Goat is to be related. In olden days, at the end of his brief reign, he was branded and given the freedom of the hedgerows, and even today his treatment suggests a link with the 'scapegoat' of ancient tradition. On the other hand, he may also be connected with the black billy-goat of the Witches' Sabbath. Recent research has shown medieval witchcraft to be in essence the underground survival of a pagan cult, the chief divinity of which was a theriomorphic Horned God. Of that Horned God, the horned Devil of Christian belief, King Puck may well be the present-day representative, and his connection with our English Puck presents interesting possibilities.

Washington Duty

by MAJOR ARCHER CUST, O.B.E.

Major Cust, as he relates here, has just completed a year's duty in the capital of the U.S.A. as a military member of the Anglo-American Joint Staff Mission. He records his impressions of Washington in wartime and also of the changed temper of its citizens which he witnessed after the Japanese attack on Pearl Harbour

It may seem curious that anyone in these times should bear any sense of gratitude to Hitler. Among the few, however, may be accounted those whose good fortune it was to be stationed for the past year in Washington.

Early in 1941 the British nucleus of what has since grown into the elaborate organization of the Anglo-American Joint Staff Commission was collected together in a northern British port and shipped across the Atlantic. It was a complete 'set up', as the Americans would say; civil servants for the uninspiring chores of administration; Cabinet offices' representatives; an admiral or two with their staffs; a large number of airmen and a few soldiers. There was a small group of A.T.S. personnel, and also communications experts heading parties of W.R.N.S. and W.A.A.F. for confidential code and cipher duties.

At first we were heavily escorted until our guardians left us to join in the hunt for the *Bismarck*, whose path incidentally crossed ours with not much more than enough to spare; but we were a good fast ship and our voyage was uneventful.

Not many of us will easily forget the lights of Long Island after months of the blitz in London—or indeed the weight of the Sunday papers the day we landed. To those of us, too, whose first experience it was, our arrival at New York on a misty morning with the tops of the skyscrapers lost to view was unforgettable.

After a few hours' stay to receive instructions and advice—the first and very necessary caution was against the dangers of the road—we entrained for the South. Nobody can say that the countryside along the Eastern Seaboard is particularly attractive and, remembering the urgent need at home for every acre, one remarked the large amount of apparently waste land. Philadelphia, Wilmington and Baltimore, however, gave us an idea of the tremendous industrial might of America.

At last we arrived at Washington, the oldest of the new capital cities of the world. It was pretty warm, and before long even those with long experience of eastern climes were asking (as many Americans do) why, with so much to choose from, those particular ten miles square were selected for the site of the capital of the new nation. History records that neither Maryland nor Virginia would allow the other the honour of such august parenthood and Washington accordingly adopted a Solomonic solution and gave half to each. So both handed over to the Federal Authority a strip of land on the steamy borders of the Potomac between the old colonial settlements of Georgetown and Alexandria. After a while the Virginia half of the enclave was abandoned and the City, which was founded in 1791 though it did not become the seat of government until 1800, grew up along the north bank of the river.

George Washington had been trained as a surveyor and he wisely obtained the services of a qualified Frenchman, de l'Enfant, to make his town plan. That plan, with its chequerboard blocks criss-crossed by avenues, interrupted by 'Circles' designed for defensive strongholds originally, has been substantially carried out; and out of the Potomac marshes has arisen one of the fairest cities in the world. No human skill or affection, however, could change the climate; the marshes have left behind them periods of humid heat which rival Karachi, while, not to be outdone, the winter produces sudden heavy snowfalls when traffic—the kerb is the usual garage for the largest *per capita* car population in the world—becomes practically immobilized. But there are exquisite days in the autumn when the colours are changing in Rock Creek, the beautiful park which slices residential Washington in two, and in the spring when the cherry trees (the original ones were a gift from Tokyo) and magnolias are in bloom.

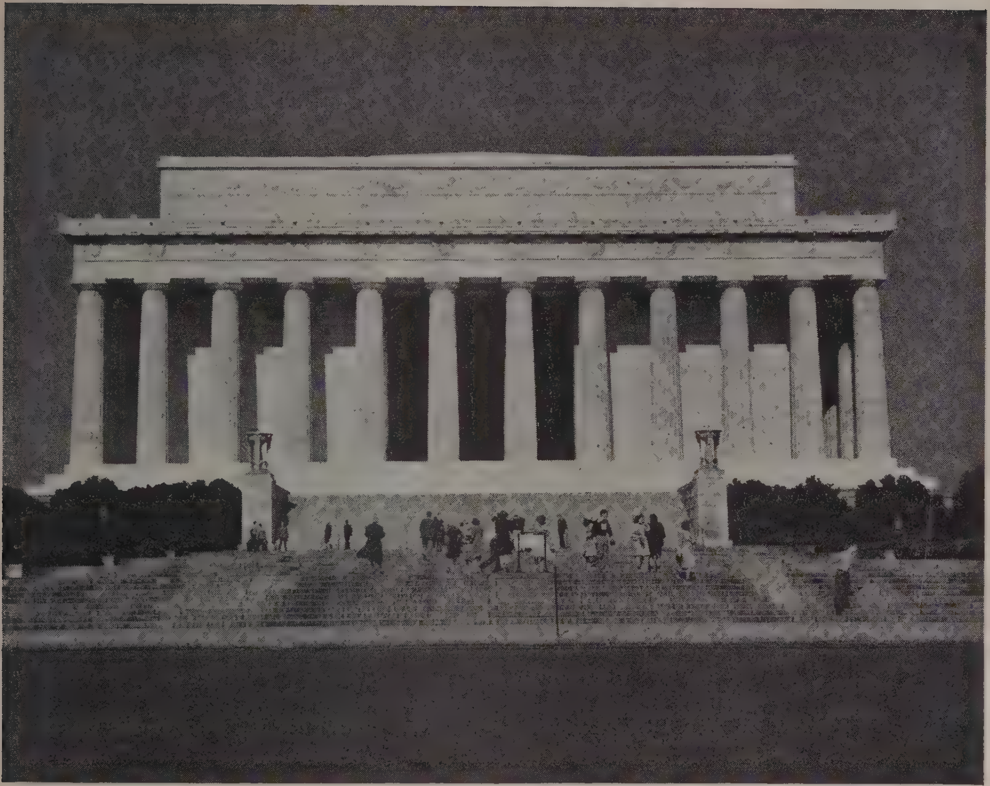
Like other American cities, Washington's streets, apart from the avenues, which are named after the different States in the Union, are lettered where they run east and west and numbered where they run north and south. The houses are numbered in four figures,

Paul Popper

One of the sights of Washington in spring is the cherry trees in bloom along the edge of the Tidal Pool in Potomac Park. The trees were originally a gift from the Japanese Government

even numbers one side, odd the other. All this was rather puzzling at first, particularly as it seemed sometimes almost the exception for the houses to bear a number at all. In a way, too, one missed the allusiveness of British street names. It had its advantages, however, in that provided one knew one's base there was reasonable certainty of the direction in which one's destination lay. Still, care had to be exercised, as some streets, for instance those starting in Georgetown, take Rock Creek in their stride and reappear quite a distance away on its other side; so if you got the wrong end you were probably late for your engagement. Soon, however, Connecticut and Massachusetts Avenues—the British Embassy, an imposing Lutyens structure, lies up the latter—and 16th Street and the shopping centres, E, F and G, became familiar fixed points. Most of all, perhaps, all roads seemed to lead to Dupont Circle, where these two big avenues cross. Here there is a peculiar and rather perilous complication in that the tramways, or rather street cars, run against the traffic—a concession to the privacy of the great mansions, old Levi Leiter's the biggest, which flank the Circle.

Washington must be the most verdant city in the world. Almost without exception the streets are lined with trees giving welcome shade in the hot months and meeting overhead in the older parts, as along New Hampshire Avenue, like the vaulted roof of a Gothic cathedral. There can be few more beautiful parks in the world than Rock Creek which leads up from the Potomac just below Georgetown and broadens out like a great fan as it runs up into Maryland, spanned by a line of magnificent bridges. Georgetown, which was originally founded by Lord Baltimore as a settlement for refugees from religious persecution, with its snug, creeper-covered Georgian buildings, retains much of



Black Star

Memorial to Abraham Lincoln. On the frieze are the names of the 48 States and the dates of their entry into the Union. Within, facing the distant Capitol, is the figure of the great President

the appearance it must have borne in colonial days and the view down Wisconsin Avenue is pleasantly reminiscent of old Hampstead.

Continue for a half-mile from Georgetown down the river, and the Lincoln Memorial, a classic temple of perfect proportions, is reached. Here you enter into the history of America. To the right, by the Water-gate where Ambassadors used to land and now are the open-air ballet and opera, lies the great Arlington Bridge—and what a lovely sight it is on a misty morning—crossing the Potomac to the Arlington War Cemetery. On the summit of the cemetery rests the Unknown Soldier before the marble Amphitheatre of Remembrance. From this eminence the view on a clear day over the river and city is memorable. Beyond the Lincoln Memorial the view stretches past the great Washington obelisk up to Capitol Hill, crowned by the shining dome of the Capitol itself. To the left is Constitution Avenue bordered by the various Government offices and other public buildings and the Mellon Art Gallery, perhaps the most satisfying building (quite apart from its unrivalled contents) that modern architecture has yet given us. To the right is the Tidal Pool with the unfinished memorial to Thomas Jefferson on its further edge. A short distance down the river lies Mt. Vernon, the country home and burial-place of George Washington. Here is America's most sacred place of pilgrimage, and all Government shipping on the Potomac as it passes pays tribute to the memory of the Founder.

Let us pause for a while in the Lincoln Memorial, under the great soft-lit brooding figure with hands clasping the corners of his chair and a big square foot thrust out like a Pope enthroned. On each side are the familiar quotations from the Gettysburg address and the speech before Congress on March 4, 1861, and every day and all day

The dome of the Capitol, crowned with a Statue of Liberty which faces away from the centre of the modern city, because, when the statue was put in place in 1863, the city was planned to develop more towards the east than in fact it has

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E.N.A.

A more distant view of the dome — from the Mellon National Gallery of Art. This building, which was opened in 1940, has no windows, the rooms being lit by indirect lighting from the ceilings. The collection, one of the finest and most representative in the world, includes several famous masterpieces from the Hermitage Museum, in Leningrad the crowds throng in to read those words of hope and redemption for humanity.

Midway to the Capitol Hill rises the Washington Memorial, an immense obelisk 555 feet high. About a third of the way up the stone changes colour, showing the limit reached when the Civil War, or as the Southerners prefer to call it, 'the War between the States', interrupted construction. To the left, a dignified Georgian-style building in well-timbered grounds, lies the White House, since 1932 the home of Franklin D. Roosevelt, whom history will certainly rank among the greatest of America's Presidents.

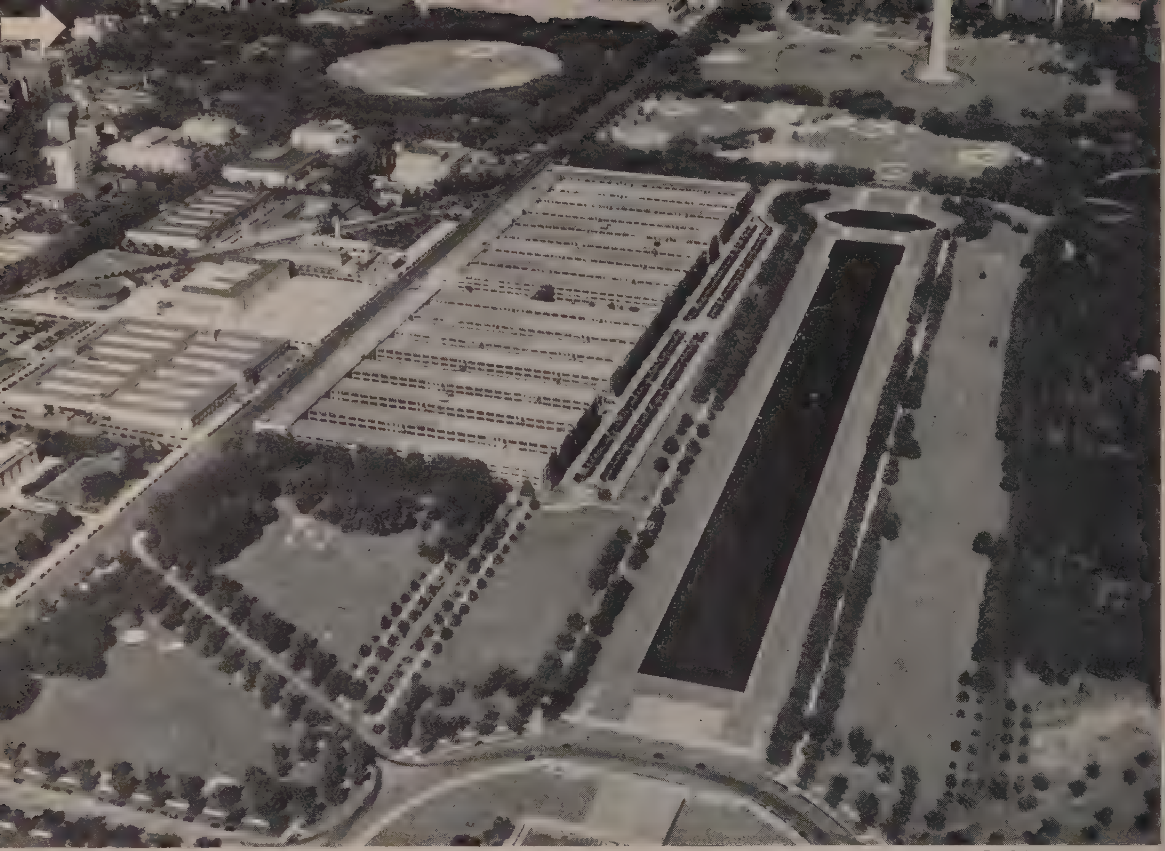
And so finally we reach the Capitol Hill dominated by the great dome of Congress surmounted by a statue of Liberty. No building in Washington may exceed a certain height below that of the dome ; hence, and here fortunately, the sky-scraper is banned. The first Parliament building, like the original Presidential Lodge and other public buildings, was burnt in 1814 by the English under Ross, the victor of Bladensburg, a few miles to the north-east, towards the end of that most pointless and exasperating of all wars, our war with America from 1813 to 1815. Actually, nearly all the fighting in that campaign took place on the Canadian frontier and it was Canada's war much more than the Old Country's, which was far too busy at home with Napoleon. Washington was burned in reprisal for the devastation the previous year of York, the modern Toronto, and the burning was carried out as far as possible with discrimination, all private property being spared. But for long the memory remained: now, however, as our numbers grew, our good friends liked to say how glad they were the English had once again occupied Washington.

Under the great dome of Congress are fine pictures of famous scenes in North American history such as the baptism of the little Indian chieftainess, Pocahontas; the embarkation of the Pilgrim Fathers; The Declaration of Independence; the surrenders at Saratoga and Yorktown; Washington handing over his commission to Congress in 1783 after peace had been declared. Perhaps the two Chambers where the Senate and the House of Representatives meet appear somewhat inadequate for their rôle, and certainly, at least in the galleries, the acoustics are no more impeccable than at Westminster. The stranger too cannot fail to be a bit bewildered by the Galleries packed with life-size figures, arranged in no apparent chronological order, of the notabilities of the various States. Few buildings, however, of its character can rival the Capitol as seen from the outside or the view back over the city and across to the Arlington Hills from the terrace.

Immediately below is the equestrian statue of General Ulysses Grant, a dour, determined figure with his hat jammed down over his eyes, flanked by fine groups of Federal artillery galloping into action. Washington is the city *par excellence* for statues; most of the circles are adorned with equestrian figures of generals of the Revolutionary and Civil Wars, and near the White House you will pass Lafayette and Rochambeau, Kosciusko, the Polish hero who distinguished himself as a young engineer at Saratoga, and von Steuben, Frederick the Great's aide-de-camp, who instilled the methods of the Prussian drill-sergeant into the raw levies of the Revolution. One of the most impressive, facing the West Indian born leader of the Revolution, Alexander Hamilton, before the Treasury Building, is the mounted figure of William Tecumseh Sherman, bareheaded and rugged as when his troops marched past him into Georgia.

The war has swelled Washington's population to a figure far in excess of the normal so that including the suburbs it must now be nearly a million. Moreover distances in America make dispersal of the growing number of Government offices inconvenient. It is calculated that the female outnumbers the male by about four to one, and every evening the various departments discharge thousands of young secretaries and 'stenogs', slim-figured and long-legged and hatless, with lovely hair done *à la* film star of the moment. In her appearance young America has certainly learned to make a little go a long way. Uniforms, of course, now fill the streets, and at first the appearance of a British tartan or a bright 'fore and aft' cap created a minor traffic problem. Along Constitution Avenue office hutments and dormitories for war workers are springing up; and an odd-shaped structure to accommodate an Information Bureau, irreverently christened 'The Boon-doggle', now graces the end of Pennsylvania Avenue. And alongside all this is the teeming, chattering, dusky population, remarkable for its philoprogenitive disposition.

We arrived shortly after the Battle of Crete. America spends her time getting somewhere and large sections of her public in all walks of life had certainly then got to the conclusion that Hitler was unbeatable and that help to Britain was only throwing good dollars after bad. Throughout that summer and autumn, the general feeling in the country was uncom-



Paul Popper

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Aerial view of Washington from above the Lincoln Memorial, looking down on the Reflecting Pool and Constitution Avenue, with Navy and Army Departmental buildings in between. The White House is shown by an arrow. (Left) *The 555-feet high Washington Memorial Obelisk*

fortable, divided and undecided, so much so that the Bill to retain the draftees for the armed services beyond the original year only passed Congress by a majority of one. Though the Navy was in effect already in a shooting war, there was much talk of poor morale in the Army and the Isolationists were deploying and expanding their forces. Even the many who remained convinced that sooner or later America would be compelled to join forces with those arrayed against the aggressors feared that she would drift half-heartedly into war with no clear call to unite and inspire her efforts. In many small ways though, one was made to feel where the sympathies and hopes of the vast majority of Americans lay—had not the President spoken about there being no neutrality of the mind?—and often quite casual acquaintances would come up and talk in a tone of pride about relatives fighting for the old country at home. Then came December 7, 1941—Pearl Harbour—the day that will live in infamy. On the West Coast as on the Eastern Seaboard, in the thronging industrial areas of the great Middle West, from New England to Florida and the Rio Grande the issue was settled and in a moment by what perhaps will prove to have been the greatest psychological and strategical blunder in history. Hitler may have added to himself the power of Japan, and let us not underrate it; but in doing so he united and ranged against him 130 millions of vital and determined people, disposing of immense quantities of the materials and industrial facilities needed for the sinews of modern war, possessed of vast resources of man power, in physique, intelligence and courage second to none. There may be some in the United States who from natural affinities or traditional outlook retain ties of sympathy with Germany and with Italy. It would indeed be most surprising to meet any such feeling towards the "little devils of Japan!"

"This generation has a date with destiny," said Mr. Roosevelt to his people, and to have been with them at such an epoch was indeed a high privilege. But the greater privilege was the opportunity to learn of Americans in America, to see and join with them at work and play, to enjoy their generous hospitality in their homes, to find out where and how we differ and at the same time to discover how much we have in common. The careless and uninformed talk of what is wrong between us is nothing more or less than doing Dr Göbbels's job for him for nothing. In truth, as those of us who have been over there can say, in the history of peoples there can never have been a unity of mind and effort so sincere. Of course we do have our differences and we often go about things in a different way just as in many respects our languages are quite distinct—so much so that some go as far as to say that Anglo-American relations would be easier if we did not nominally talk the same tongue. Besides, behind us there is a century and a half of old beliefs and prejudices which have died only too hard. But now when we argue and sometimes squabble, they are the squabbles and arguments of a family: and is it not symbolic that in the Library of Congress are to be found, close at hand, the three documents on which the whole American national philosophy and way of life are based: the Declaration of Independence, the Constitution, and Magna Carta?

There will be no turning back in the United States. Once more humanity has struck its tents and is on the march and the Star-Spangled Banner is in the van.

(Left) *Inside the White House on December 23, 1941, the day of the historic meeting between the Prime Minister of Great Britain and the President of the U.S.A.* (Right) *The White House from the garden*

Associated Press

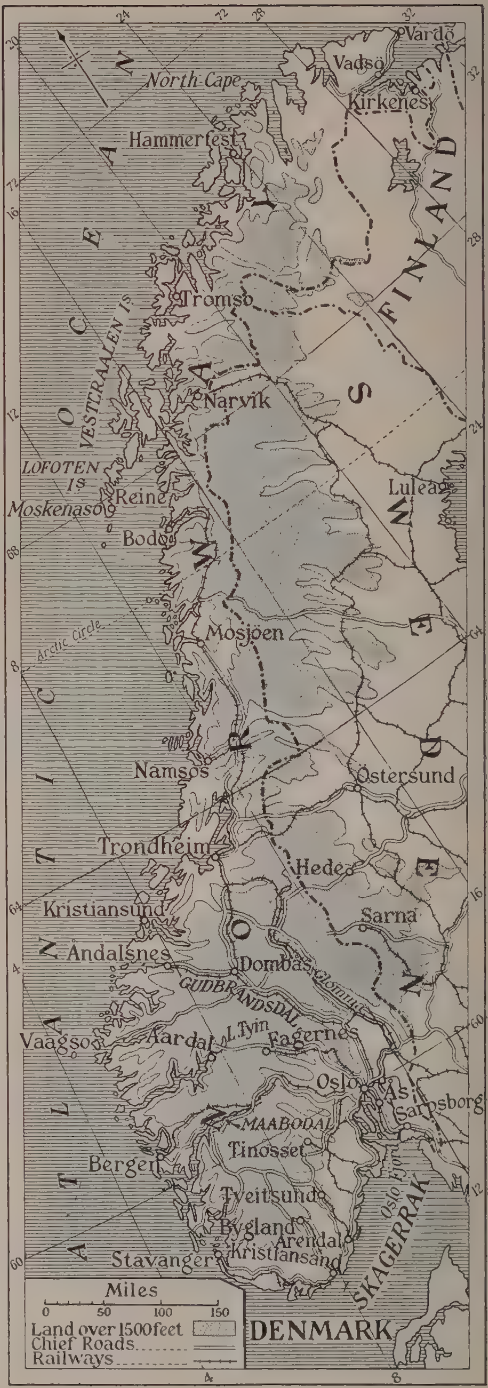
Black Star

Norway's Progress and Atlantic Destiny

by A. SOMMERFELT, D.Lit.

Last month Professor Sommerfelt, now Director-General of the Royal Norwegian Ministry of Education in London, explained to our readers the length and strength of the links between his country and Britain. In this second article he writes of Norway's progressive outlook and national achievements, which suggest that in the future she will identify herself even more closely with the North Atlantic peoples, whose sympathies and interests coincide with her own

Norwegian influences in the British Isles were very strong during the 9th century and for some five hundred years after; but in the 13th century relations between the two countries became less intimate. There were many reasons for this. There seems to have been a deterioration of the climate, which hit the Norwegian people, who live on the verge of the civilized world, harder than the inhabitants of Central Europe. Summers became wetter and colder; crops failed and glaciers extended, sometimes in the west destroying farms and tilled land. In 1349 that terrible plague, the Black Death, swept away a large part of the population. But before these effects had made themselves felt, the power of the Norwegian King in the British Isles clashed with the rising might of the King of Scotland. The attempt of King Håkon V to save his colonies failed, after the battle at Largs, and in 1266 the Isle of Man and the Hebrides were ceded to Scotland. The Orkneys remained Norwegian until 1468, when the Dano-Norwegian King, Christian I, pledged them as part of the dowry of his daughter Margaret, who married James III of Scotland. But the Norse tongue was spoken on the islands till a much later date. The last speakers of Norwegian in the Shetlands did not die out until towards the end of the 18th century.



Stanford, London

Norwegian Information Office

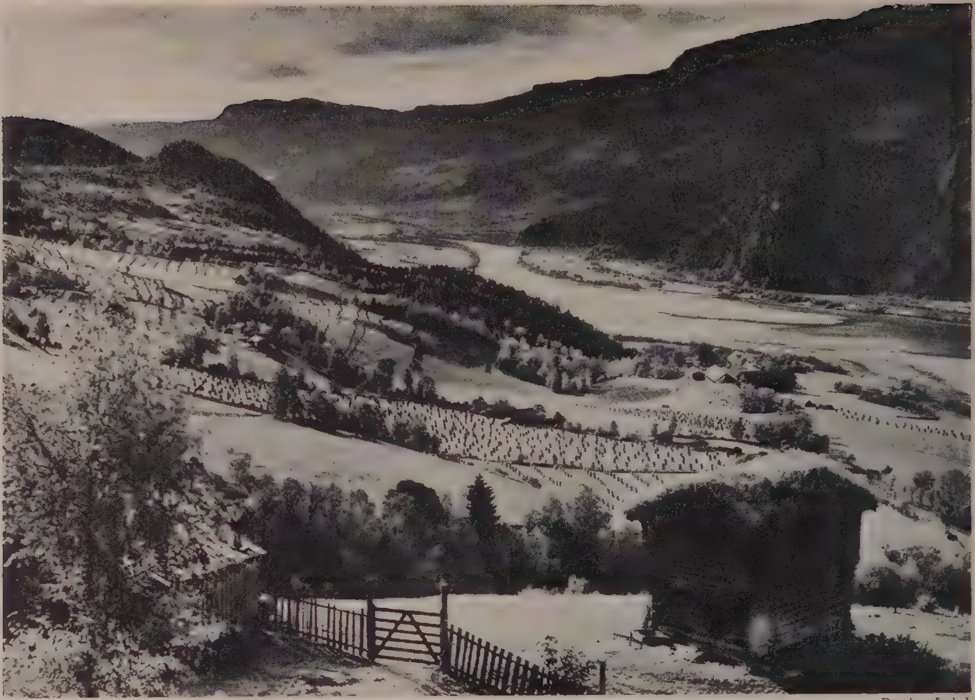
Hammerfest is the most northerly town in Europe, at the latitude of the extreme north of Alaska. It is a small fishing town, with about 4000 inhabitants, on a bleak and weather-beaten island: nevertheless, the harbour is ice-free all the year round on account of the Gulf Stream

Norway might have recovered if she had not been economically enslaved by the German Hansa, the defensive alliance which was the basis of the medieval federation of German cities known as the Hanseatic League. The Germans behaved as if Norway was a German colony and fleeced the people. The Norwegians seem at an early date to have seen the danger, and King Sverre made a remarkable speech at a fair in Bergen in 1186 in which he said:

> We wish to thank all Englishmen who have come here with wheat and honey, flour and homespun. We thank those who have brought flax, wax and kettles. We mention with friendship those who come from Orkney and Shetland, from the Faroes and Iceland, and all those who have brought to this country the things we cannot do without.
>
> But the German men who come here in big numbers in big ships take away our butter and our dried fish, and because of those outgoings there arises great destruction for our country. In return they bring wine which has caused many of our people to lose their lives or their limbs, or to suffer shame or be wounded or beaten. I can only be ungrateful to Germans for their conduct; and if they wish to keep their lives or their goods they must leave at once. Their errand has been of little use to us or to our land.

But the Hansa succeeded in monopolizing trade with Great Britain, and for a long time Norway was practically cut off from the west. In 1319 the royal house of Sverre became extinct and the country was united for some time to Sweden, and then to Denmark. The latter union lasted until 1814. These countries were also dominated by the Hansa. The reduction of the population and the ensuing impoverishment of the people prevented the Norwegians from developing their shipping and they clung to their ancient viking ships. Spiritually, also, German influence became preponderant when reformation of the Church on Lutheran lines was introduced in 1536 at the command of the Dano-Norwegian King.

In the 17th century the tide turned. The Norwegians again became a seafaring people, and in the 18th century relations between Norway and Great Britain and the other western countries again became intimate.



Dorien Leigh

In Gudbrandsdal, in South Norway, there are many farms containing some of the best of Norway's old wooden architecture. The valley was the scene of heavy fighting in April 1940, when some farms and the ancient, beautiful wooden church at Kvam were destroyed by the Germans

The author and playwright Ludvig Holberg, a native of Bergen, who from 1706 to 1708 studied in Oxford, may be said to be the founder of the modern Dano-Norwegian literature, and to have introduced western ideas into the United Kingdoms of Denmark and Norway. England, English life and literature became better known among the Norwegians than among the peoples of Denmark and Sweden, and the Norwegians were in constant opposition to the strong German influence in Copenhagen.

When, in 1814, the Danish King had to cede Norway to Sweden, the Norwegians did not recognize the cession of their country, which was against their will. They declared themselves independent and framed a constitution which was the most liberal in Europe, taking their ideas especially from the American constitution and that of the French of 1789. After a short war with Sweden the Norwegians had to accept union under the Swedish King, but they were able to safeguard their constitution. The two countries had a common Foreign Minister and common diplomatic and consular services, but in all other matters they were entirely independent of one another.

In the 19th and 20th centuries, right up to the present war, Norway continued to develop in a remarkable way. Modern shipping and industry have transformed Norwegian life and raised the standard of living to one of the highest in Europe. At the beginning of this century the country had little industry; the people were for the most part farmers, fishermen, tradesmen or Government employees. Even then Norway was, socially, more democratic than other European countries. The old Norse nobility had died out during the medieval period and when the union with Denmark was dissolved there were few titled families in Norway. In 1821 all titles and privileges were abolished by Parliament. The leading class consisted of Government officials, but soon farmers made use of the rights conferred on them by the constitution of 1814 and sent their own representatives to Parliament. After a long political struggle the principle of majority

Paul Popper

This picture shows a mountain landscape in winter in the interior of Norway, which has less wild scenery than the coast. It is an ideal country for skiing. At Easter hundreds of thousands of Norwegians spend their holidays in the mountain hotels or cottages

government was acknowledged in the 1880's, and since the two-party system broke down owing to the rise of the Socialist party after 1900, the largest parliamentary group has governed the country as long as it has retained the confidence of Parliament. Thus the Socialist party was in power from 1935, when the present Government of Mr. Nygaardsvold (now domiciled in London) succeeded it.

Social development in Norway has been peaceful and gradual. Remnants of the patriarchal system which was depicted with such enthusiasm by many English travellers in the beginning of the last century may still be found in some remote valleys; but industry, modern communications, education and the emigration to the towns (and to America which contains as many persons of Norwegian descent as does Norway herself) have given Norwegian urban society a new character and in the result it is much less bound by tradition than the English. In 1801 Norway had 883,000 inhabitants of whom about 109,000 lived in towns. Now about 900,000 are living in towns out of a population of just under 3 millions. Oslo, the capital, had in 1801 only a few thousand inhabitants. Today, when the population of the suburbs who work in the town is included, the figure is about 400,000.

Owing to the sparsity of the population, and the mountainous character of the country, which leaves large parts uninhabitable, the administration of Norway is difficult and costly and communications cannot be run on a paying basis. Only in the south-east, where the country is less mountainous, is there a network of railways comparable to those of central European countries. There are railways from the capital to the main towns on the coast, Kristiansand, Stavanger, Bergen, Kristiansund (connected by ferry with Åndalsnes) and Trondheim, and from the latter up to Bodø. But the country north of Bodø has no railways apart from a short line from Narvik to the Swedish frontier. Much of the traffic is therefore carried by coastal steamers and motor buses. The roads are usually good, though few of them are metalled, and in the south they form an elaborate network. In the north, however, they are few, though the great trunk-line of roads along the coast to Kirkenes, which was under construction when the Germans attacked Norway, seems to have been completed.

Most Norwegians are still employed in agriculture but the country is not self-supporting in grain. It is evident that in a country which extends from 58 to 71 degrees north agricultural conditions will be very varied. South of the Arctic Circle it is possible to grow ordinary agricultural produce, but the northernmost part of the country is mostly under grass. Norwegian farms are usually small, especially in the west and the north. Most holdings include woodland and often large stretches of pasture. Land is not often rented: about 94 per cent of the registered holdings are freeholds.

The Norwegian farmer is fully conscious of his liberty and his political influence. He is proud that he has never had a feudal overlord; in fact, many of the farms belong to men whose ancestors have owned them for generations, in some cases even for several hundred years. Especially in those parts where few tourists penetrate the *bonde* as he is called—the English word 'farmer' cannot render the real sense of the word—has kept up the old hospitality. He is law-abiding, hard-working and honest, with a fine sense of tact and good manners. It is significant that before German barbarism overran Norway there was no police outside the towns and urbanized districts. A bailiff and his assistant was all that was needed for large country districts.

(Below) *The road in the Maabødal shows the difficulty of roadmaking in Norway.* (Opposite) *Oslo, the capital of Norway, is almost entirely modern, but few, if any, capitals have such charming surroundings. The royal castle can be seen here in the middle, with the main street, Karl Johans Gate, leading up it*

E.N.A.

Along the western and northern coasts a large part of the population are fishermen; some of the greatest fisheries in the world are placed there, especially outside the Lofoten Islands. In recent times the Norwegians have developed modern whaling; their catch in the South Seas brought considerable capital to the country.

Besides agriculture, manufacturing industries are now the largest source of employment, affording a livelihood to more than a fourth of the entire population. Industries are varied: iron and engineering; foodstuffs; pulp, cellulose and paper concerns; textiles, clothing, mining and metals; sand, clay and stone; chemical and electro-chemical products; oils and fats; wood products.

Most of the Norwegian workmen come from the land, very few of them have been industrial workers for more than two generations. They have therefore retained much of the independence of the farmer and may at times seem to be somewhat unruly. But they have also the same strong sense of justice as the farmer and have been able to use their political liberty to ameliorate living conditions. Their standard of living and health has risen remarkably during the last generation.

The worker is as keen a sportsman as other Norwegians, for sport is no upper class privilege in Norway. In winter, on a good skiing Sunday, as much as a fourth of the entire population of Oslo may be seen in the woods and hills. Modern winter sport originated in Norway. In summer the sheltered waters of the fjords of South Norway are an ideal playground for bathers and sailors. Those who have come up the Oslo fjord on a sunny Sunday in summer will not easily forget the sight of the hundreds of white sails on the waters of the fjord and thousands of bathers on the cliffs.

Sport and the heightened standard of life have made the Norwegians a very healthy people, whose physical fitness finds expression in the continuously increased stature, until they are now probably the tallest people in Europe.

Norwegian Information Office

Norwegian Information Office

Outside the wild Lofoten Islands are some of the biggest fisheries in the world. Above is Reine, which was the scene of a British-Norwegian commando raid. (Left) *Norway has her share in the British ship-building programme: the launching of the first of the new ships built for Norway, named after King Håkon, beloved hero of the Norwegian people*

Norway has plenty of water power, more, indeed, than any other European country; only Canada, the United States and South America have more. Not only are the towns provided with electricity but also a large part of the countryside. Most of the railways still burn coal, but electrification is proceeding, and about 10 per cent of the system had been electrified by 1938. In Norway there is no coal, but Spitsbergen has coal mines, which before the war were worked by one Norwegian and one Russian company.

In normal times Norway's foreign trade is as varied as her industries. She has to import many foodstuffs, especially grain, fruit and groceries, and her imports considerably exceed her exports. Great Britain has the largest share in the imports, and carries on the largest trade with Norway. The supplier next in importance in 1937 was Germany, with 16·5 per cent of the total. Sweden is represented with 9 per cent and Denmark with 6 per cent. Considerable imports came also from Belgium, France, the Netherlands, Italy, Poland, Czechoslovakia, Spain and the United States. The exports show a still wider geographical distribution: the United Kingdom took the greatest share (25·1 of the total in 1937); Germany occupied second place and the U.S.A. the third.

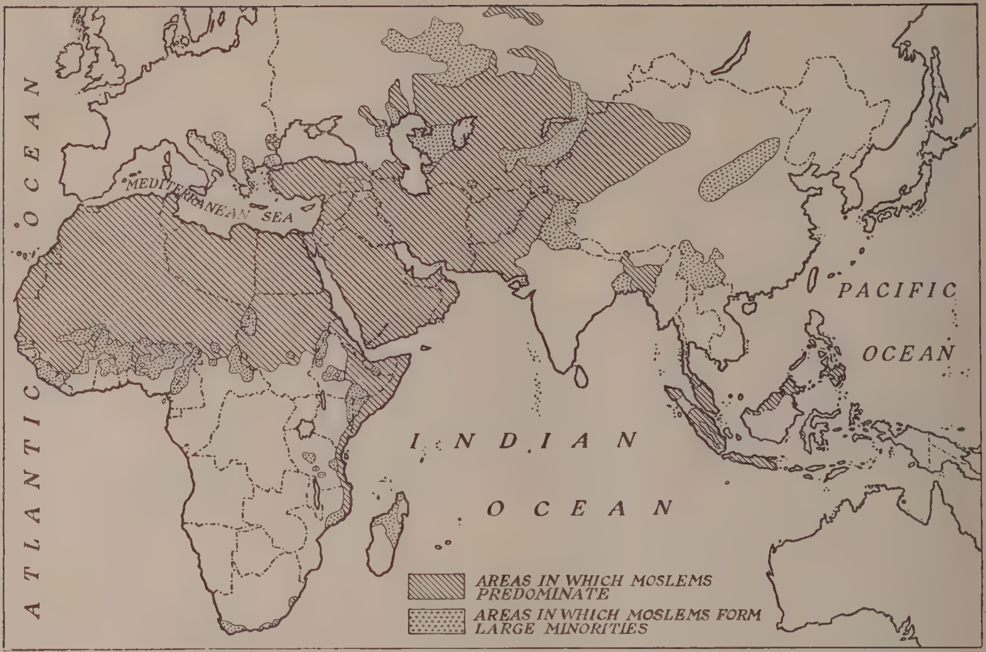
Up to the outbreak of war, the greater part of Norwegian imports and exports were carried in Norwegian ships. In 1850 Norway had reached sixth place among shipping nations, in 1914 fourth. The last war cost Norway about fifty per cent of her fleet (Britain lost 37 per cent) and 2000 sailors. Thanks to their bold and far-sighted policy of reinvestment, Norwegian shipowners were able not only to rebuild the lost ships, but to double the pre-war fleet. In 1939 Norway occupied the fourth place among the shipping nations and had the most modern fleet in the world. She had the greatest tanker fleet of all. A large part of the fleet in peace time sailed all the seven seas, crews often being away from home for years on end. Norwegian shipyards can build ships up to 10,000 tons, but most of Norway's ships were built abroad, before the war, mostly in Great Britain, Sweden, Denmark and Germany. When the Germans attacked Norway the whole fleet was requisitioned by the Norwegian Government and it is now administered from London by the Norwegian Shipping and Trade Mission. Norway ranks as a great sea-power in this war. Not only is her merchant fleet of vital importance to the Allies, but it has made it possible for Norway to finance her own war effort and for her Government to be entirely self-supporting. But the losses in men and ships have been heavy. Now, fortunately, Norway has her share in the British shipbuilding programme and has been promised American-built ships as well.

The merchant fleet is of vital importance to Norway and it is thanks to the earnings of Norwegian shipping that the country reached so advanced a stage among modern democracies. But the 19th century witnessed not only a remarkable economic improvement, it also saw a great spiritual expansion. Literature, fine arts, music, science and scholarship became influences in world civilization. In addition the Norwegians became the leaders in arctic exploration. Illiteracy has been almost non-existent since the beginning of last century, and education has been thoroughly democratized. English is taught in elementary schools in all towns and in the more important rural communities. After the war it is to be introduced in all schools in accordance with the new school scheme. The coming into force of this scheme was, however, upset by the war, and the Germans are now trying to replace English by German, but have met with little success. There are a number of higher educational establishments, among them one university in Oslo, a university college in Bergen, a technical university in Trondheim and a faculty of agriculture at Ås.

Norway is well on the road to State socialism. Communications on land are largely run by the State or by the municipalities. Shipping is, however, left to private initiative. Almost all hospitals are owned by the State or by the municipalities; the public prefer them to the private ones, as they are cheaper and have the best physicians. There is an elaborate system of social legislation and insurance.

Geographically and culturally Norway is a Scandinavian country, but it must be borne in mind that Scandinavia is no unity. The Scandinavians have the advantage of being able to understand the languages of one another, but economically they have different interests. They are to a great extent competitors on the world market. The different professional groups in Scandinavia are in intimate contact with each other, but they have at the same time independent contacts with the leading powers. It is significant, for instance, that modern English and American, and to a lesser extent also French literature is better known by the educated public in Norway than modern Danish or Swedish. Norway feels herself especially attached to Great Britain and the United States, both economically and culturally.

British capital has played an important part in the utilization of the natural resources of the country and the first railway was built by an English company. English is the main foreign language in use in Norway. When therefore the Norwegians pronounce themselves in favour of a regional league of the North-Atlantic peoples, they are only foreseeing the political consequences of an already existing economic and cultural situation. The Germans want to include them in a Continental block in which they will be choked. Norway understands that Scandinavia has not got sufficient resources to make defence against a great industrial power possible. But though the Norwegians will oppose all attempts at excluding them from the western world, from whichever side they may be forthcoming, they do not wish to cut themselves off from Scandinavia. If a North Atlantic regional league comes into being they would be glad to see Sweden and Denmark join this league. In this way the Scandinavian countries would be a link between the western democracies and Soviet Russia.

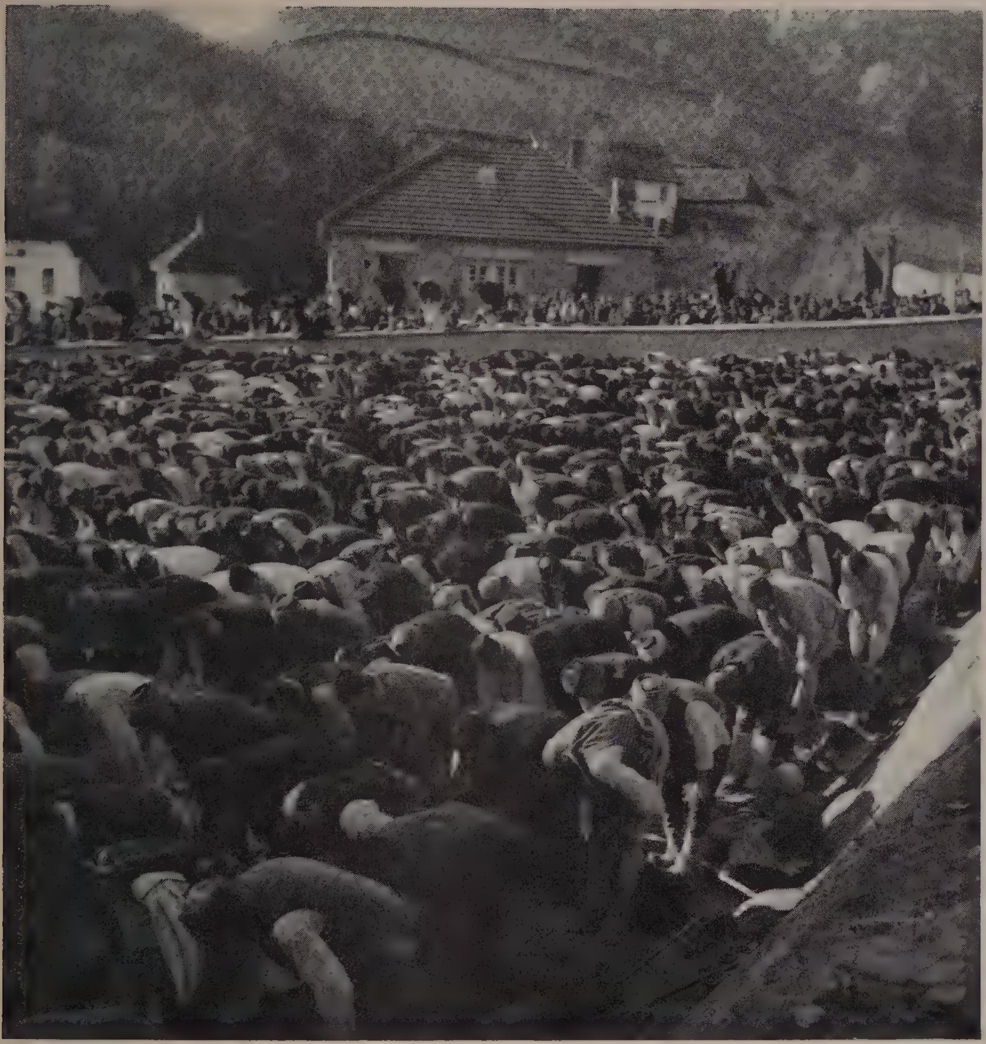

ATLANTIC OCEAN
MEDITERRANEAN SEA
INDIAN OCEAN
PACIFIC OCEAN
AREAS IN WHICH MOSLEMS PREDOMINATE
AREAS IN WHICH MOSLEMS FORM LARGE MINORITIES

Islam and the Modern World

by NEVILL BARBOUR

THE words Islam, Mohammedan, Moslem evoke in the European mind the image of something mysterious, alluring, even a little alarming. They suggest the fantastic world of the Arabian Nights. They carry memory back to the time of Charles Martel, called "the Hammer", and to the story of that campaign, fought out in central France, which decided whether the inhabitants of north-west Europe were for the future to profess themselves followers of Jesus or of Mohammed. They recall the epic of the Crusades, the struggle for possession of the Holy Sepulchre, the figures of Saladin and Cœur de Lion. They may remind us that it is only a little more than a century since the Barbary Corsairs used to attack any Christian ships from Europe which sailed the Mediterranean Sea within range of the North African ports. Cervantes in *Don Quixote*, and other story-books of our youth, have told us how these Moslem pirates seized crews and passengers, enslaving the poor among them and holding the rich to ransom. By such means the Beys of Tunis and the Deys of Algiers raised revenue to build the palaces whose courtyards, cooled with splashing fountains and coloured by precious tiles from Italy, are the delight of modern tourists. As recently as the conflict of 1914–18, the fear that war against the Turkish Empire and its Caliph Sultan might arouse the hostility of millions of warlike and fanatic Moslems, was a serious preoccupation of British statesmen, including the late Lord Kitchener; today, again, Moslem reactions are a factor of first importance in questions affecting the Levant and India.

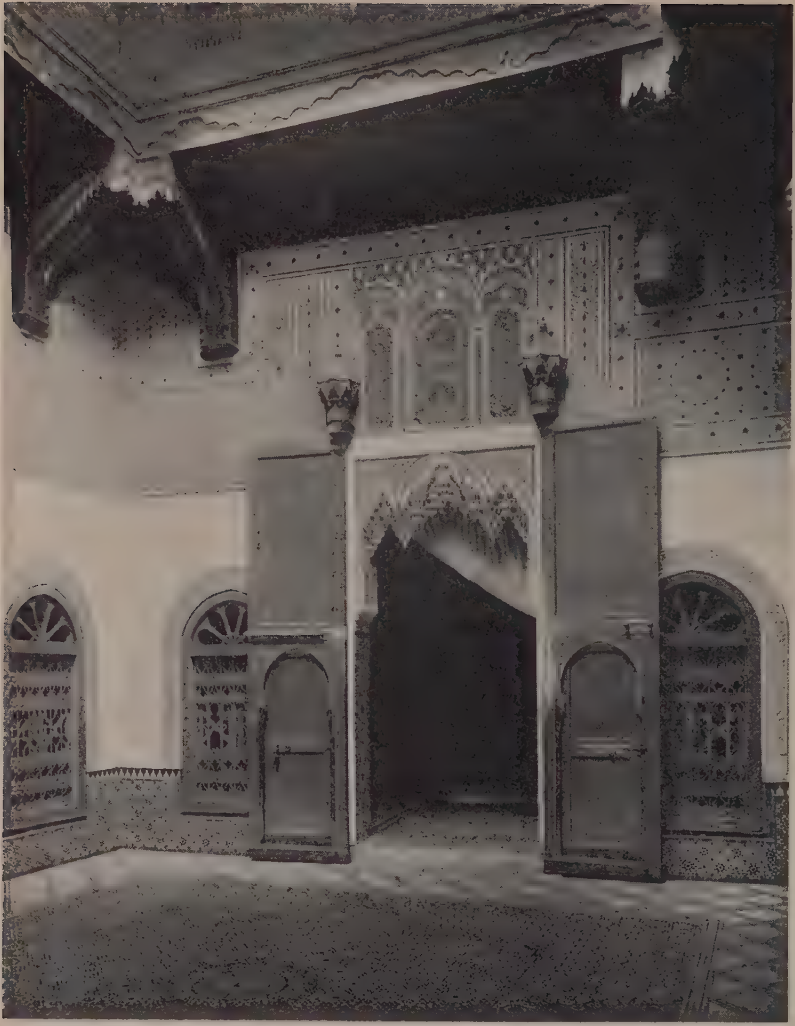
Travellers to the East used to find their idea of Islam intensified by first-hand observation: they saw Islam reflected in the splendour and squalor of the orient, the tracery of the minarets of Cairo, the call of the muezzin at dawn or dusk, the lovely cypresses in the dreaming cemeteries above the Bosphorus at Istanbul; and somehow bound up with all this, the sunshine and the dust, the insistent cry of the beggar, the prevalence of the blind and the one-eyed, the inimitable poise and impudence of some beduin urchin clad only in his white burnous.



Toni Muir

The largest Mohammedan communities in Europe today are found in Yugoslavia, in the provinces of Bosnia and Herzegovina. Islam was introduced by the Ottoman Turks, though its adherents are not of Turkish race and speak Serbo-Croat. Hundreds of worshippers during prayer at the inauguration of the Mosque at Vrnograca

Against the contradictions of this picture we may set the idea which the ignorant Moslem masses held of European Christianity until a few years ago. For them Europe was the place whence the Franks came, and these Franks were in their eyes a race of unbelievers, people of disgusting habits who ate pig's flesh and intoxicated themselves with forbidden spirits. They were people whose women went shamelessly about in public and danced half naked with men not even of their own family. Yet though obviously an accursed race, God in His inscrutable purposes had nevertheless given them the power to contrive ingenious and terrible engines of war, and by these they were enabled to oppress and exploit the true believers. In the days of religious fanaticism and self-centred ignorance which are only today disappearing, the average Moslem saw no inconsistency between this



Interior of the house of a well-to-do citizen of Fez, capital of Arab Morocco. Note the beautiful tiled floor, the amazingly delicate plaster work, and the wooden doors painted with floral and geometrical patterns. All rooms open onto a central courtyard; externally the house has only windowless walls and the entrances are arranged so that no direct view of the interior is possible from without

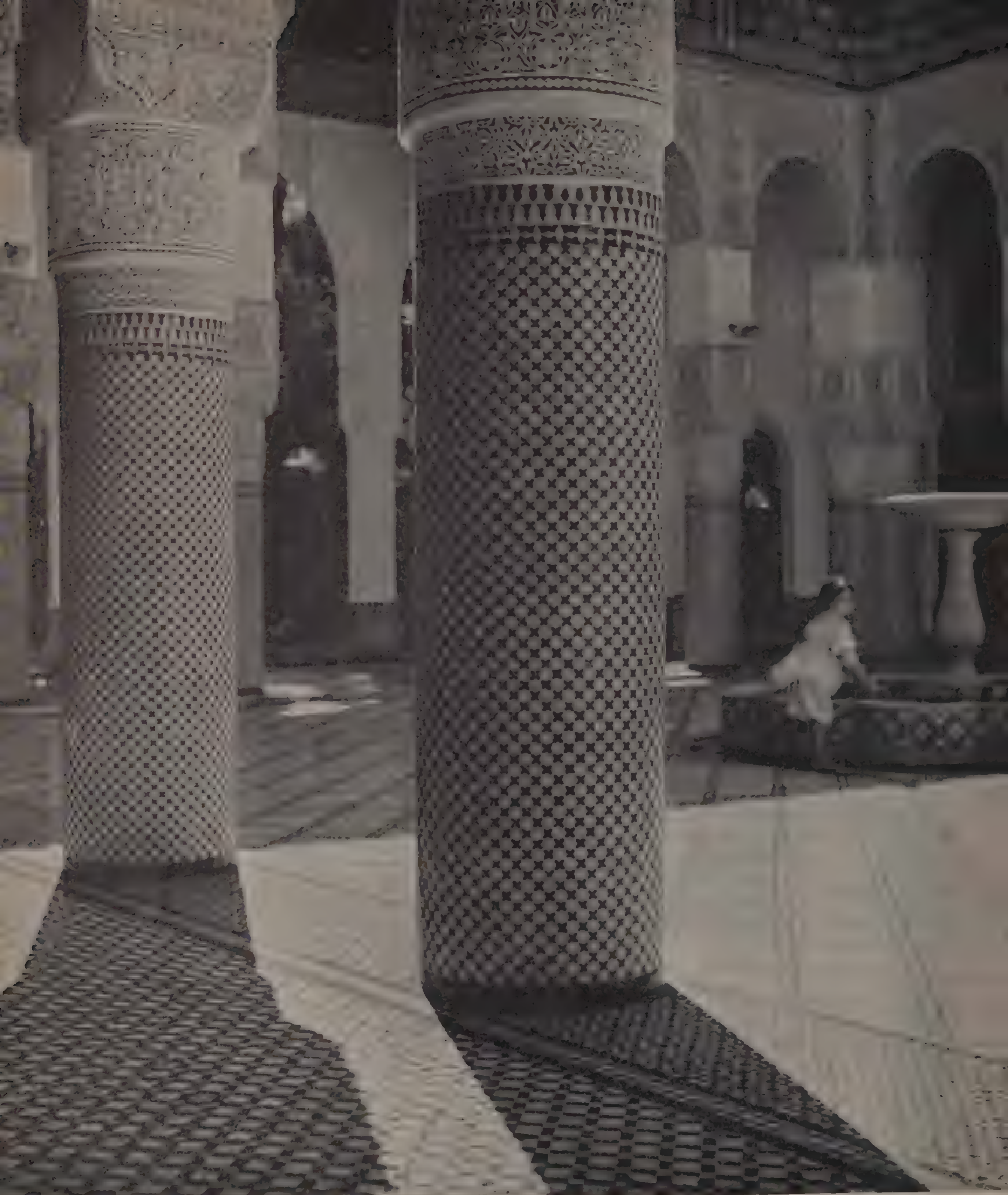
view and the teaching of his religion that Christianity was a form, somewhat corrupt it is true, of the worship of the one God whose true expression is the faith and ritual of Islam.

In discussing the significance of Islam in the modern world it is useful to make some such comparison as this, if only to clear the mind of old prejudices and leave it free to reflect the conditions of today. In the Middle Ages religion so dominated the minds of its followers that it directly affected their every action and gave its own form and colouring to every political event. Those times are now passing away in the East as they have already done in the West. Yet, though the influence of Islam is now primarily cultural and traditional, its political action remains immense. We can perhaps best gain a clear picture of its action in the modern world by thinking of that of Christianity in the circumstances of today and then making the adjustments called for by the differences in the nature and history of the two religions.

Islam and Christianity are both derived from the system of revealed religion of the Hebrew Old Testament. Both aim at being universal, and both in fact have united within their fold races and countries of very different languages and civilizations. They share the belief in a day of judgment, of punishment in Hell and reward in Heaven. Their moral systems coincide in numberless points. Islam,

Toni Muir

Terrace of a humble Moorish home at the seaport of Azemmour. As across the Strait in South Spain, the houses are washed a dazzling white. The mattresses and pillows are for sitting and sleeping on. The Arab tradition, perhaps based on the bedouin life, always reduced furniture to the minimum



Toni Muir

Courtyard looking onto the garden in the house of a wealthy citizen of Fez. The tiles in Morocco are of local manufacture, not as in Tunisia where they are imported from Italy. The fountain in the centre is characteristic. The house is of a rather heavy modern style but by no means lacking in elements of traditional beauty though it denies that Jesus is the son of God in the Christian sense of the word, nevertheless acknowledges Him to be the Messiah and the greatest of the prophets before Mohammed. The Koran, indeed, describes Him as the word of God, conveyed to the Virgin Mary. The late Sir Thomas Arnold once told me that he had seen Mohammed portrayed as a witness to the virgin birth among Christian saints in a painted altarpiece in a Dalmatian church. Hilaire Belloc in one of his books went so far as to describe Islam, incorrectly but suggestively, as the greatest of Christian heresies.

More authoritative is the view put forward by the well-known Spanish orientalist, Miguel Asin Palacios. In a book which treats of Islamic mysticism and was published with the imprimatur of the Roman Catholic authorities, the learned Spaniard, himself a priest, pointed out that much of the doctrine of the Roman Catholic Church is embodied in the teachings of Islam. From this he deduced that where evidence for miracles attributed to a Moslem mystic is such that it would have been accepted by the Church as conclusive in the case of miracles attributed to a Christian saint, a Christian should accept these Moslem miracles as genuine.

In an entirely different sphere, the kinship of the two religions led the late Lord Lloyd, one of the British statesmen best acquainted with the Moslem world, to publish a pamphlet, at the beginning of the present war, in which he advanced the thesis that the impending struggle was essentially one of Christianity and Islam against the irreligious forces of Nazidom.

These striking resemblances should not, however, be allowed to conceal the differences. Theologically, the fundamental point of disagreement is the Moslem denial of the divinity of Jesus. In the field of practical morality the most striking difference is the sanction by Islam of polygamy (to the extent of four legal wives) and the right given to the man of divorcing his wife at his own discretion. Modified as this might be in practice by the influence of such traditions as that which stated that "the angels hate divorce", the practice undoubtedly led to abuse and must be held in part responsible for the ignorance and servitude of Moslem women before the beginning of the recent renaissance in the Islamic lands. Today, however, monogamy is rapidly becoming the rule in all classes and in modern Turkey, for example, is the only practice recognized by law.

In respect of intoxicants, on the other hand, Islam was stricter than Christianity and for many centuries succeeded by religious sanction in imposing upon the majority of its adherents that total abstinence from alcoholic drinks which the American Government recently failed to enforce on the inhabitants of the United States.

Another important difference lies in the way in which the two religions spread. Christianity remained the religion of a minority for about three centuries. During the whole of this time it had to make its way, frequently in the face of persecution, solely on its merits as a religion. Islam, on the other hand, after a single decade or so of oppression, became the religion of a conquering nation. Contrary to the old-established prejudice, it may be said to have been proved today that it was the faith of the early Moslems rather than their swords which established Islam as a world religion. Nevertheless the fact that Christianity was so long without the adventitious aid which the State can give an established faith no doubt tended to hinder certain tendencies which had free play in Islam. While Christianity has had its crusades, the Holy War is not in its case an essential doctrine, as it is in Islam. Christianity, moreover, grew up in the civilization of Greece and Rome and took on a definitely Graeco-Roman colouring, retaining much of the practice of paganism even though it rejected the theoretic basis of the polytheistic system. Islam, on the other hand, developed in a purely Arab environment. Its sacred book was conceived by Mohammed as a revelation to the Arabs in the "clear Arab tongue" and the Arabic language has in fact been inseparable from the history of Islam for more than a millennium. Only since Atatürk's revolution in Turkey has any attempt been made in any country to use the vernacular for the words of revelation. On the other hand, while both religions are indebted for their background to the teachings of Israel, Islam adapted the teachings of Judaism only in a form modified by the Arab and Islamic mentality, but Christianity came into the Greek and Roman world straight from a Jewish cradle, and brought the Jewish Bible with it in its entirety.

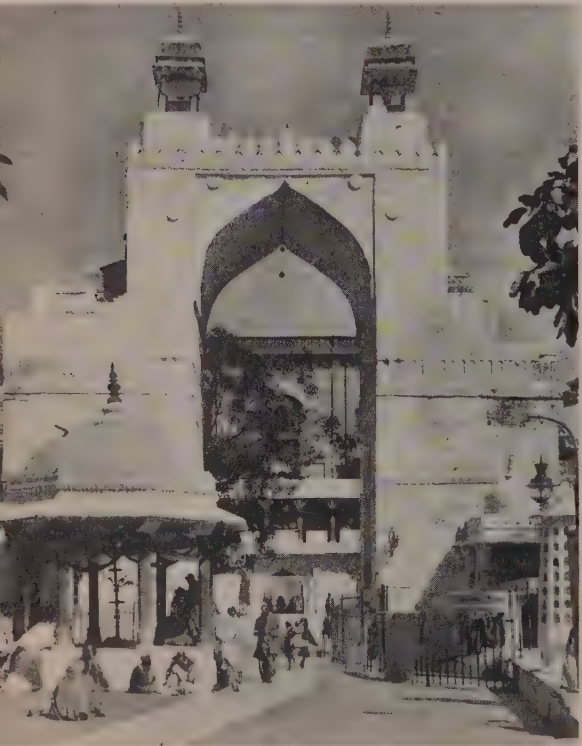
One other point should perhaps be borne in mind. This is the difference in the level of material civilization at the present time between the most advanced Islamic country and the corresponding Christian country. Whether the relative backwardness of the Islamic countries has any essential connection with the difference of religion is a matter on which Christian and Moslem apologists disagree. It is at any rate not to be denied that in the Middle Ages the position of Islam and

Toni Muir

Toni Muir

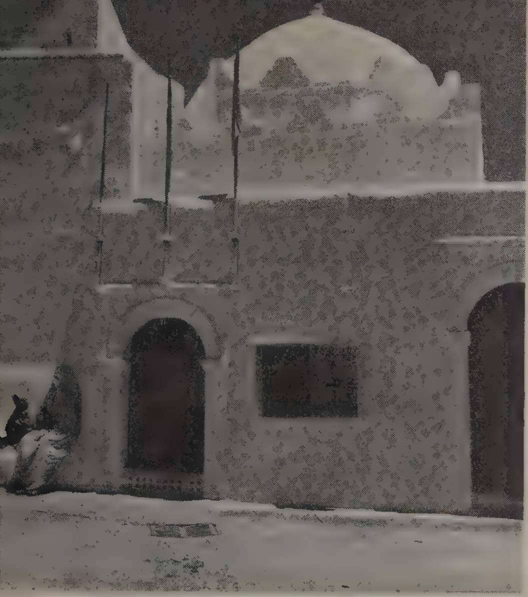
Three specimens of Moslem architecture from opposite ends of the Islamic world: (left) *mosque with square minaret, characteristic of North Africa, at Tamanar, Morocco.* (Right) *Primitive negro structure serving as a mosque at Segon, French Sudan.* (Below) *Mohammedan gateway at Dargah Kwaja Sahib, Ajmer, India*

Paul Popper



Christianity in this respect was the opposite of what it is now. It is appropriate, too, to remember that when we write a 'cheque' or order a 'ream' of paper or hear of a victory of a British 'admiral' or express the hope that our 'arsenals' are at last well filled, we are paying unconscious tribute to the medieval supremacy of Islamic civilization by using words of Arab derivation.

To estimate the place of Islam in the modern world, then, let us think of the place which Christianity holds in the world today and then consider how this position would be modified as the result of such differences as those outlined above. The primary significance of Islam in the 20th century lies in the fact that it has produced a common bond of culture and ideals over a vast space of the world's surface. This Islamic tradition includes the countries of North Africa, from the Atlantic coast to Egypt and the Sudan in a belt extending from the Mediterranean to the heart of Central Africa. In Asia it comprehends Palestine, Syria, Turkey, the whole of Arabia proper, Iraq, Iran and Afghanistan. It predominates in vast tracts of Russia and of China, and, as we all know, Islam in India is the religion of some 70,000,000 people, a population sufficient to form a great nation. Through the whole of this vast area, with its 200,000,000 inhabitants, there is a commun-



Toni Muir

Toni Muir

(Left) *A saint's tomb in the dazzling white, characteristic of the North African coast, at Azemmour. A veiled woman sits beside the door.* (Right) *A slender minaret rises beside a stupendous rock-built ancient Egyptian temple at Luxor, Upper Egypt.* (Below) *Interesting modern mosque in the Sultanate of Selangor, Malaya*

ity of outlook, mutual sympathy and understanding.

Politically the bonds which link the component parts of the Moslem world are not comparable today to what they were in the past. The project of a Holy War in present circumstances would be as much of a sham as Hitler's 'crusade' against 'atheist' Russia. A revival of the Caliphate would be as unreal as a revival of the Holy Roman Empire. I recall a story told by the late Walter Harris, for many years *Times* correspondent in Tangier. In the first decade of this century Morocco was still an independent country, ruled by a young Sultan, Mulay Abdel Aziz. Now the Sultan of Morocco assumes among his various titles that of Emir al Muminin, the Prince of the Believers, which was the distinguishing and proudest title of the great Caliphs of the East. Mr Harris relates that he was one day walking on the palace wall at Fez with the young Sultan, who was his friend. Seeing the neglected condition of the Sultan's soldiers, some of whom were lying beneath the wall in rags and tatters, their rifles neglected and their bodies shivering with fever, he began to reproach the Sultan. Upon this Mulay Abdel Aziz became angry. "My friend," he said, "have you forgotten that you are speaking to the Prince of the Believers?" "No," was the reply he received, "I think it is Your

Paul Popper

Paul Popper

Domed religious building with minaret in the Holy City of Kairawan, Tunisia, formerly capital of an independent kingdom. Domes in many forms characterize Mohammedan architecture. (Opposite) *Small boy from a school in Saudi Arabia. Owing to the influx of pilgrims from all parts of the world, Jedda has a remarkably varied population*

Barnaby's

Majesty who has forgotten that these men are the believers." Here is the kernel of the question. The institution of the Caliphate predicates the existence of a Moslem ruler enjoying the prestige of an orthodoxy above reproach, and of a material power at least comparable to that of any other worldly ruler.

Of modern Moslem rulers only King Abdel Aziz of Saudi Arabia (better known to Europeans as Ibn Saud) could be held to possess the necessary religious prestige and spiritual independence. But the physical conformation of his realm and the resulting social conditions are not such as to permit the development of military power upon the scale necessary to fulfil the second of the conditions mentioned above. A well-known Arab man of letters, living in Palestine which, together with Syria and Iraq, forms the so-called Fertile Crescent of the Arab world, once emphasized this point to me in a striking phrase. "His Majesty", he said, "is a Lion, but a Lion in the desert." Nor, even if the Arab world could be persuaded to accept an Arab Caliph, would the Turkey of today give any allegiance to an Arab, or indeed to any Caliph at all. It was in fact precisely the material backwardness of Islam which led the Turks, so long the champion and bulwark of Islam, to disestablish religion and to emulate the civilization of the Christian West.

There is an illuminating story for whose accuracy I cannot vouch, though it has good authority, that the Japanese in the course of their search for the secret of modern progress once sent a commission to investigate the respective merits of the various religions of the western world. This commission reported that the religion of Islam was the best suited to Japan, on account of the simple and sensible nature of its doctrines and its virile and chivalrous influence upon conduct. Nevertheless in view of the material backwardness of its adherents they did not recommend its adoption by the Japanese people!

In the nationalist movements of North Africa, Moroccan or Tunisian patriotism is bound up with Islamic feeling perhaps even more intensely than Christian feeling was bound up a century ago with Greek patriotism in the war for liberation against the Ottoman Empire. At the same time North African Moslems often feel the greatest enthusiasm for the Turkish national hero, Atatürk, in spite

of the latter's disregard of Islamic precepts and his abolition of the Caliphate. They admire him, may indeed almost worship him, as a product of an Islamic environment who has had the power and the resolution to face up to the Christian powers and successfully defend the independence of his land.

Or again, take the Palestine question. Here discord has arisen between the indigenous Arab population and the half-million Jewish immigrants who have arrived in the country during the last twenty years as a result of the policy of establishing a National Home for the Jewish people. Seeing that nine-tenths of the Arab population is Moslem, this can be regarded from one aspect as a struggle between Moslems and non-Moslems. For this reason the Palestine Arabs can confidently count upon the support of the Islamic countries.

Life Magazine

Fine modern buildings of Fuad I University, outside Cairo not far from the Pyramids. Thousands of Moslem students now pass annually through this and similar up-to-date institutions

A notable example of this was the attitude taken up by the representatives of Persia as well as those of Iraq and Egypt at the meeting of the Assembly of the League of Nations in 1937. If we study the history of the rising within Palestine itself, we find that the Arab bands which began the fighting were organized by local Moslem notabilities, enjoying religious prestige, such as Sheikh al-Qassam and Sheikh Farhan as-Saadi. It is true that the Palestine Arab movement united Palestine Moslems and Christians as never before and that the Palestinian leader, Haj Amin al-Husseini, formerly known as the Grand Mufti of Jerusalem, took every step to maintain good relations between Christians and Moslems, himself employing a Christian as his principal propaganda agent. Nevertheless it was no doubt fanatical religious faith in Islam as much as national feeling which sustained the Palestinian villagers in the armed rising which broke out in 1936 as a protest against the Jewish immigration and which lasted for three years in spite of large-scale countermeasures by British forces.

In the same way the Moslems of India, feeling themselves a national unit, and threatened by the Hindu majority in Congress, look for the support of the Islamic world in all its parts. Even today it is safe to say that they will receive this support in large measure, though some of those who give it will justify their action on some other pretext than the common bond of Islam. Here, again we see how great the influence of Turkish leaders may be with Indian Moslems, on account of the Islamic record of their country in the past and its material progress today.

In Syria, the difficulties arising from the existence of important non-Moslem minorities are still a principal factor in hindering the Syrian movement for national unity and independence and so in a sense evidence of the importance of the factor of Islam.

It is interesting to note that the Japanese, in their preparations for the present world-struggle, have not failed to exploit Moslem sentiment in the countries of the Middle East. Although they do not recognize Islam within their own country as an accredited religion,

Margot Lubinski

A square in Ankara, capital of modern Turkey. The statue represents the great renovator, Atatürk. Besides the old town, shown here, Ankara contains splendid new Government quarters with fine ministries, public buildings and gardens

they nevertheless took care to appoint one of their few Japanese Moslem subjects as a member of the commercial delegation which they sent to the Moslem countries of the Middle East.

We see, then, that though Islam is no longer the dominant factor in the minds of the leaders of thought or statesmen of the Middle East, it has not ceased to be a principal factor affecting political action throughout the vast area in which the Islamic tradition persists.

What of the future? Large-scale conversion to Islam is today found only in those primitive areas, such as Central Africa or parts of the Dutch East Indies, where Christianity also is still making numerous converts. For two or three centuries Islam has been at a disadvantage because it had never undergone that adaptation to modern conditions which was effected in Christianity by the Reformation and the Counter-Reformation. Recently, however, this process has begun, thanks to the reforms initiated by Jamal ed-Din, the Afghan, and carried on in Egypt in Lord Cromer's time by the famous Sheikh Mohammed Abdu. These have been taken further recently in the reform of the Mosque university of Al-Azhar, under the leadership of its present broad-minded and capable chief, Sheikh Mustafa al-Maraghi. The prestige of Islam is, moreover, likely to gain from the general renaissance of the Arab and other Middle Eastern countries. It seems therefore probable that Islam will continue to develop on lines parallel to those of Christianity and that it can look to the future with the same degree of confidence as its sister religion.

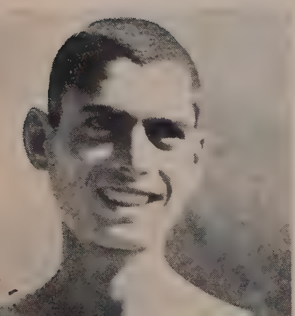
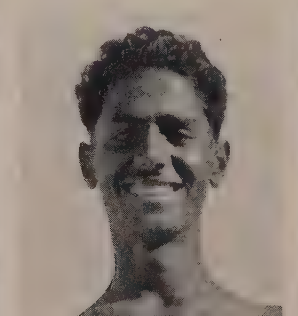
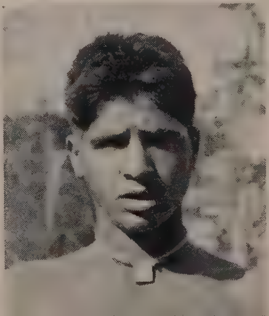
India's Warrior Sons

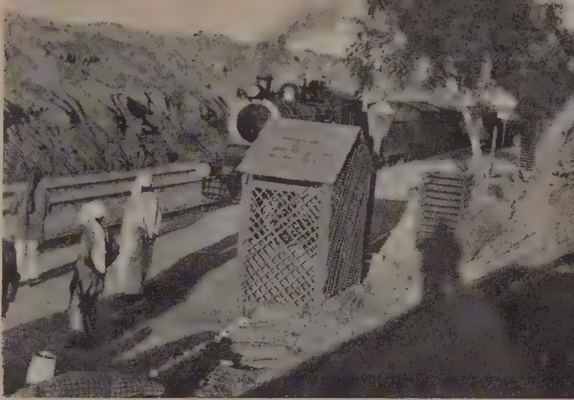
by F. BURTON LEACH

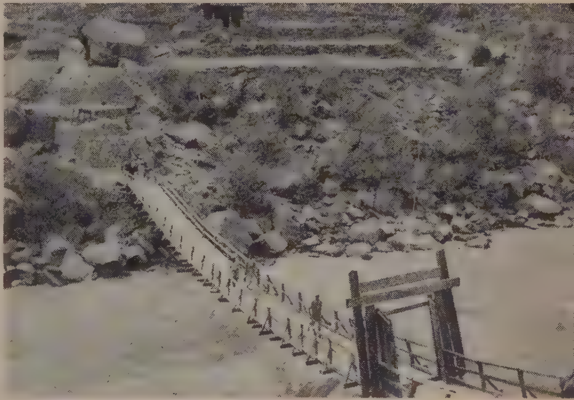
IN a world of conscript armies there is still one country where the finest man-power is recruited in the largest numbers by voluntary enlistment. That country is India, where military service is an honoured tradition among large sections of the people.

Recruitment is, in accordance with the age-old custom of the country, confined to certain classes. For instance, of the four Hindu castes, the second, the Kshattriya or Rajput caste, is the caste of warriors. Then the Sikhs are followers of a militant religion, reminiscent of Cromwell's Ironsides. The Mohammedans have no castes, a fighting tradition is in their blood, and some of the finest troops in the world are recruited from the descendants of the warrior tribes, who, in the past, came down through the passes to the plains of India.

From other parts of India come men with equally fine traditions of service, such as





(Above and right) *Recruiting officers arrive by road and rail.* (Below) *Types of recruits who come from many parts of India: Kashmir, the Punjab, the North-West Frontier. One is accompanied by his father, a Punjabi patriarch*

Mahrattas and Garhwalis, and, from the independent kingdom of Nepal, perhaps the most famous of all, the Gurkhas; but the villages of the Punjab and the North-West Frontier have been, for the last hundred years, the best recruiting grounds in India. From them come the Punjabi Mohammedans, the Jats, the Sikhs and the Dogras.

The recruiting sphere has now been extended beyond all precedent, but before the war sixty per cent of the Indian Army came from the Punjab, a province with a population of only 28 millions out of India's total of 390 millions. The sturdy cultivators of this country, brought up in a climate which varies from scorching heat in summer to piercing cold in winter, are well fitted to stand the rigours of war, and the physical standard of the men is high.

In normal times recruitment is largely automatic; Sepoys and N.C.O.s, when they go on leave, bring back younger brothers and cousins to join the regiment. But even in peace-time Recruiting Officers, British and Indian, go round periodically.

A recruiting tour may mean rough travelling over village roads, with unbridged rivers to ford, but there is always a welcome when a village is reached. In most villages there

(Left) *A recruiting M.O. taking chest measurements.* (Right) *How does the candidate walk?* (Below) *Rejected recruits have their thumb impressions taken and are granted a compensatory subsistence allowance.* (Opposite) *Lining up for inspection. These pictures are from Northern India*

will be one or more pensioners, including probably an Indian officer, who, after thirty years' service, has gone back to his family lands; there is much talk of old days in the Chaupal or village meeting-place, and then the likely lads of the neighbourhood assemble. There is no need for compulsion, little even for persuasion, and the hardest task may be to console those who have to be rejected for physical unfitness. The Recruiting Officer knows from experience what standard is necessary to pass the medical test (which will be held by the doctor) and makes few mistakes. On his return journey the chosen recruits will be ready to go with him to their Training Centre.

In this war, on many fronts, India's sons have once again shown their fighting qualities. But this time there is one great difference: they are now, to a large and increasing extent, led by Indians holding the King's Commission instead of, as in the past, only by British officers. Candidates for commissions, from all parts of India and from all classes of the people, are far more numerous than vacancies to be filled.

The first V.C. to be won by an Indian in this war was awarded to a young Sapper officer, Second Lieutenant P. Singh Bhagat, a Kashmiri. For four days, with hardly a pause for rest, he cleared minefields over a distance of fifty-five miles, all the time in imminent danger of his life. Twice mines exploded and blew up his carrier, but though nearly dropping with fatigue he refused to stop, merely saying that he had gained too much experience to give up till the task was fully accomplished. For deliberate and sustained courage his action could hardly be matched.

One of the actions in which Indian troops played a conspicuous part was the assault on Keren in the East African campaign, and they were largely instrumental in capturing this strongly defended and vital position. The second V.C. to be won by an Indian was posthumously awarded to Subadar Richpal Ram of the Rajputana Rifles for his part in this action. A few days earlier he had led his Company after the Company Commander was wounded, and captured a strong post under heavy fire, and in a second assault he was seriously wounded, and, even after his foot was blown off, cheered his men to the end.

Wherever the Indian Army has served, in East Africa and in Libya, in Malaya and in Burma, in attack or in retreat, they have gained the highest praise from those under whose command they have served as well as from those who have fought side by side with them. When victory comes, the Allied Nations will have cause to remember India's gallant sons, seen in these photographs in the first stage of their service, who have done as much as any man may to secure the triumph of freedom over aggression.

All photographs from the Ministry of Information

Uruguay

South America's Smallest Republic

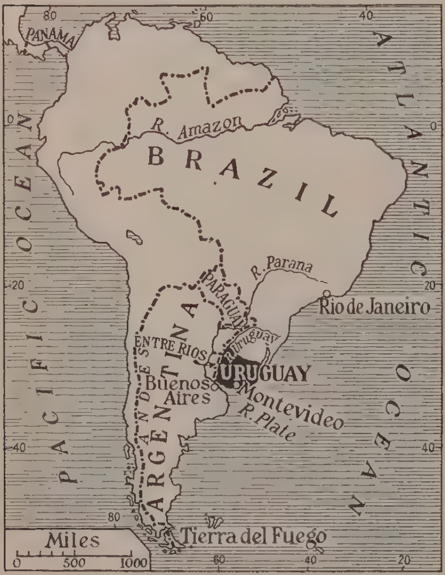
by F. A. KIRKPATRICK, F.R.Hist.S.

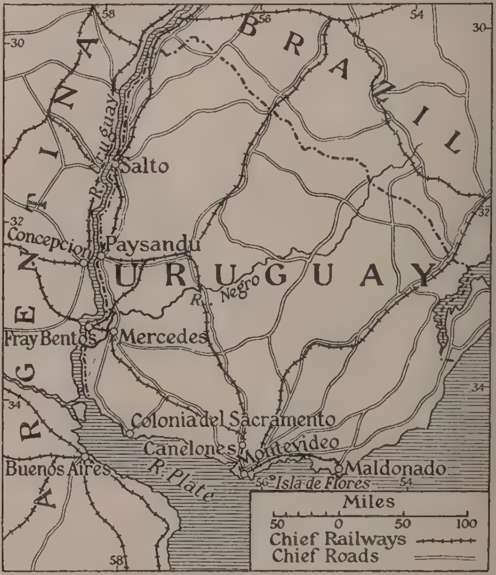
When on August 22, after great provocation, Brazil declared war against Germany and Italy, Uruguay at once made an unqualified gesture of support to her great neighbour. That gesture is characteristic of the small stout-hearted country which, as the author of this article knows by experience, is among the most progressive of modern republics

On the map of the South American continent—which extends through sixty-seven degrees of latitude from northern equatorial regions to Antarctic seas—a small and inconspicuous tract lying to the south of Brazil bears the title Uruguay.

And here the map looks somehow incomplete. The Republic of Brazil, mainly tropical, thrusts a rectangular extension into the South Temperate Zone, but stops short of the River Plate estuary, which might seem to be the natural southern frontier. The Portuguese first and afterwards the Brazilians did attempt to reach that 'natural frontier'. For twelve years (1817–29) they held the capital, Montevideo; and during part of that time the country was incorporated with Brazil under the title Cisplatine Province. But the Spanish element was earlier and stronger, and the Brazilian southward thrust was here pushed back. Rightly so; for the grassy expanse of Uruguay belongs physically, as well as historically, to the Argentine Pampa region and not to the Portuguese-Brazilian world lying to the north.

This small country of Uruguay—apparently little more than a corner chipped off the Rio-Platenese system—is least in extent, though not least in population (something over two million) of the ten South American republics, a country of a mere 72,000 square miles—an area no more than that of England and Scotland without Wales—whereas her neighbour Argentina, stretching westward to Andine peaks and tapering southwards to the icy cliffs of Tierra del Fuego, could swallow up the whole British Isles ten times over; and to the north the giant Republic of





Stanford, London

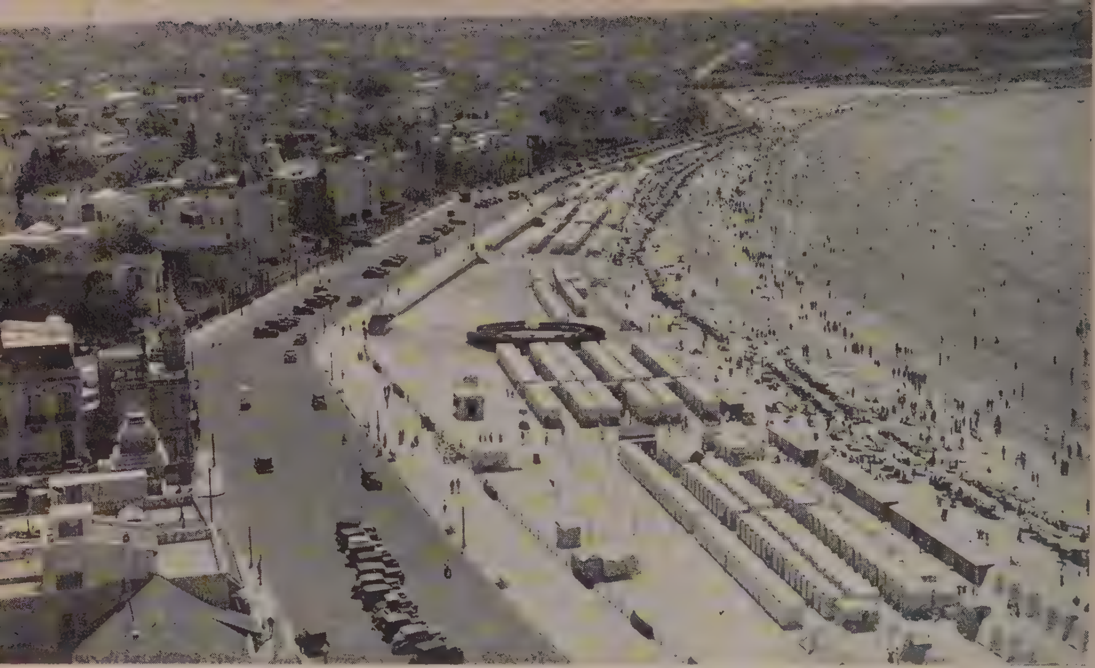
Dorien Leigh

One of the most attractive features of Montevideo, Uruguay's capital, is the bathing beaches that lie within easy reach. This one is at Atlantido on the way to Canelones

Brazil—inheritor of the whole Portuguese empire in South America—spreads over half the continent and embraces an area three times greater than that of Argentina. Yet in the constellation of South American republics little Uruguay is by no means a minor star. During the past generation she has taken an advanced place in the inter-American system, and may even claim to have shown the way to some of her bigger neighbours both in cordial international relationships and also in the conduct of civic life through a series of bold constitutional experiments and a vast increase of social services, including free education in every grade.

The little republic has received full recognition of her dignity and equal status. Her voice has been effectively heard in Pan-American Conferences—the gatherings of delegates from all the American republics held periodically in some American capital. The choice of Montevideo as the seat of the seventh Pan-American Conference in 1933 was a worthy tribute to the smallest South American republic. The choice was just; for Uruguay has been foremost in urging solidarity in the Western Hemisphere, even outpacing the United States in zeal for Pan-Americanism. This Montevideo Conference—held in a cordial atmosphere—proved to be a great historic event; for it opened a new and more intimate phase in relations between the United States and Latin America through the conclusion (for the first time in the history of these Conferences) of definite agreements conducing to peace and combined action. In the three inter-American Conferences held since the outbreak of war—at Panama, Havana and Rio—Uruguayan delegates took a prominent part, stoutly opposing the Axis.

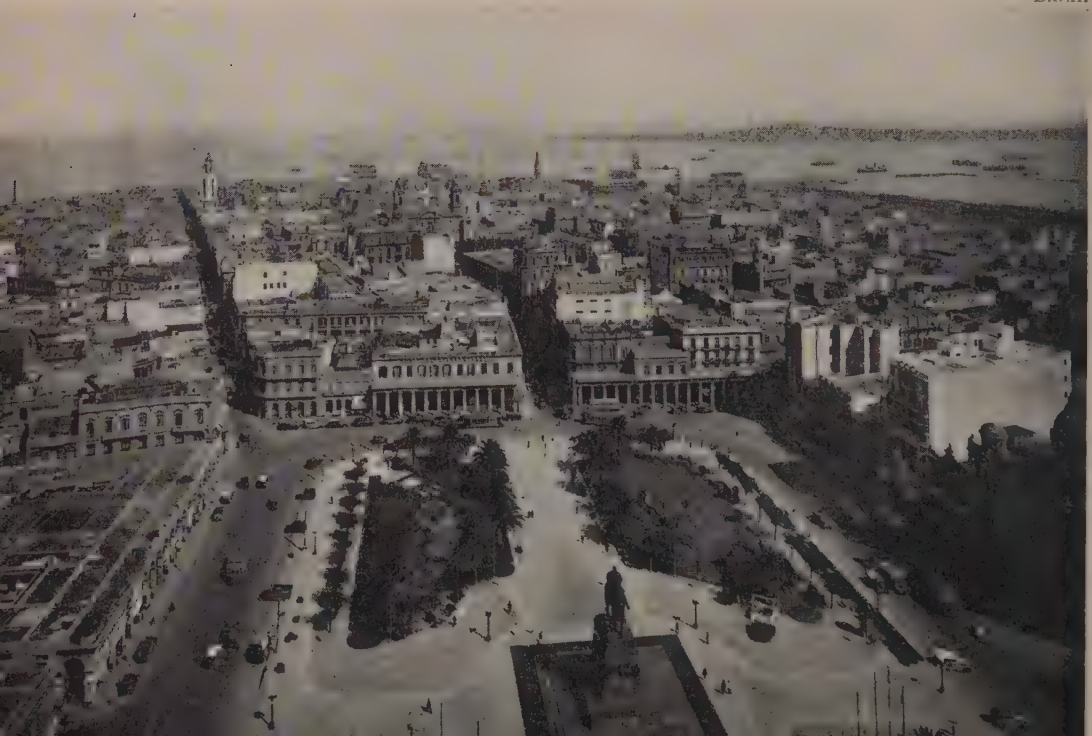
The Uruguayan people have a special claim on the sympathetic regard of Englishmen. For on three occasions the country has been brought into near contact with Great Britain. The first occasion was in the days when the country formed part of the vast trans-Atlantic dominions of Spain. In February 1807—the Spanish monarchy being then a subservient ally of Napoleonic France and therefore at war with Great Britain—a



Dorien Leigh

The most fashionable and crowded of the bathing beaches, reached by a short tram journey, is the Playa Pocitos shown above. Below is a view of the old part of the city of Montevideo, founded in 1727, by the Spanish Governor of Buenos Aires

E.N.A.



British force, attacking by land and sea, took Montevideo in face of vigorous resistance by the Spanish garrison and the townspeople. For seven months the capital, with its 15,000 inhabitants, was in British hands, General Auchmuty, commander of the British forces, acting as Governor. The port was opened to British and neutral trade; hence a great increase in commerce and an influx of new and liberal ideas. Indeed Montevideo, during the British occupation, had the distinction of producing the first newspaper ever published in Spanish America. This was a weekly sheet entitled "The Star of the South", or in Spanish form *Estrella del Sur*, for parallel columns were printed in English and in Spanish.

This seven-months' adventure ended abruptly when General Whitelocke, commander of all the invading British forces in the River Plate, failed in his attempt to take Buenos Aires, capital of the Viceroyalty, and signed a capitulation which included the evacuation of the whole region by the British. Accordingly the British troops were withdrawn from Montevideo and the place returned to the dominion of the Spanish monarchy, which in turn was to lose its hold on the country seven years later.

In England the episode is but dimly remembered as one of the many ineffective side-shows of the Napoleonic war. But in Uruguay the story of defence, conquest and recovery—preliminary to the winning of independence from Spain—is still vividly recalled. A Montevidean journal recently printed a facsimile of the opening bilingual paragraphs in the first number of *The Star of the South*, together with a contemporary narrative, previously unpublished, of the British invasion.

That invasion left no bitterness behind it; and the second British intervention, which came two decades later, was amicable and beneficent. For three years (1825–8) Brazil had been fighting Argentina—or rather Buenos Aires—for the possession of the country. No decisive issue was in sight. At last in 1828 Lord Strangford, British Minister at Rio, suggested to the two belligerents that they should agree to recognize the disputed territory as an independent republic. Both parties accepted the suggestion. Thus it was through British mediation that the Uruguayan Republic, with a population of some 70,000, entered on an independent but still somewhat precarious national existence in 1829.

The third instance of Anglo-Uruguayan contact was not a thing designed and foreseen, but a dramatic stroke of destiny still fresh in our memory. On December 13, 1939, the German battleship *Graf Spee*, battered by the guns of three British cruisers, fled into Montevideo harbour. Three days later she sailed out, to be scuttled by her own crew. It is hardly fanciful to speak of this as an incident of Anglo-Uruguayan contact, since it gave to the Government, the Parliament and the mass of the Uruguayan people an opportunity of showing their hearty sympathy and their satisfaction at the British victory.

But it would be a mistake to dwell exclusively on these outstanding instances of British contact. For steady and continuous British activities have had a great share in the country's economic growth. Almost the whole railway system—a huge contribution to that growth—is of British construction and under British management. Public utility services are largely British. The pastoral industry, too—the mainstay of national well-being—owes much to British work. Paysandú, second city in the republic, and its neighbour Fray Bentos, both situated on the River Uruguay, prosper through the British industry of meat-preserving, an industry based on model cattle estates. Moreover English and Irish *estancieros* were pioneers, in the eighteen-seventies, in setting up wire fencing on the unenclosed pasturage: an essential preliminary of sound farming, since it made possible the separation of herds and improvement of stock, largely through import from England. Durham, Hereford and Shorthorn cattle, Lincoln and Romney Marsh sheep, are familiar names throughout the republic.

To European ears there is something bizarre in the phrase with which a Uruguayan citizen announces his nationality. *Yo soy Oriental*, "I am an Oriental." Nothing to do with the 'Gorgeous East' of Araby and Ind! The republic is officially designated *La Republica Oriental del Uruguay*, "The Republic East of the River Uruguay", the river separating the republic from the Argentine province of Entre Ríos. Thus the title *Oriental* means "the country beyond the River Uruguay" and resembles such titles as Transvaal or Trans-Jordania. In old pre-independence days *La Banda Oriental*, "The Eastern Side", was the country's name; or rather is still its vernacular name today, current in everyday speech throughout the River Plate; shortened characteristically on British lips to the initials B.O.

Three republics—Argentina, Paraguay, Uruguay—recognize by their titles that they

Dorien Leigh

Early Portuguese influences also left their mark on Uruguay as this garden architecture on the Isla de Flores proves. It is at least 200 years old. The island now contains a lighthouse and a quarantine station

are the offspring of the great river and its affluents. Yet the Danubian paradox that "Great rivers are bad neighbours" has been abundantly illustrated in this western region by long disputes and armed conflict over questions of navigation rights, control of interior waters and access to the sea.

The original inhabitants, known as Charruas, made a gruesome entry on the scene, when in 1516 they lured ashore, killed, cooked and ate the Spanish explorer Solis, discoverer of the estuary. They were scanty groups of nomads, ignorant of tillage, living by hunting and fishing and owning no domestic animals; for cattle, sheep and horses are not indigenous. The present inhabitants are, almost all, pure European in origin, the remnant of the Charruas having been absorbed or eliminated more than a century ago. Yet some slight streak of Indian blood inevitably persists in the remote rural population.

It remains to trace European settlement. These shores were long neglected, settlement passing westward and north-westward up the river. For a century or more after the foundation or re-foundation of Buenos Aires in 1580 the Banda Oriental was—so far as the Indians could be held in check—cattle pasture for the citizens of Buenos Aires. The only European inhabitants (besides vagabonds and fugitives from justice) were a few gauchos—equestrian cowboys armed with lasso and *boleadora*, herdsmen and hunters of the wild cattle and horses. A change came when the Portuguese in 1678 set up the fortified port of Colonia del Sacramento, facing Buenos Aires across twenty-five miles of water. Colonia, repeatedly taken and retaken throughout a century, passed finally into Spanish domina-

Dorien Leigh

The present inhabitants of Uruguay are almost entirely European. This street display, off one of the capital's main streets, is of tinware brought into the country by Spanish immigrants

tion in 1778. But already fifty years earlier Spain had fixed her hold on the country; for in 1727 the Spanish Governor of Buenos Aires founded the city of Montevideo—on a well-chosen site near the mouth of the estuary—to be the capital of a Spanish province. The Spanish speech and Spanish character then stamped on the country have prevailed ever since. "Montevideo is Spanish to the core" wrote Cunninghame-Graham, who knew the country well. The persistence of this fundamental character is remarkable, inasmuch as immigration from Italy and France (chiefly the Basque region) in the 19th century exceeded immigration from Spain.

These new-comers from Southern Europe have been the making of modern Uruguay. For the picturesque Spanish creole tradition was an easy-going conservatism, averse from steady exertion and from manual labour. The industrious Italian immigrant filled a gap, taking up every profitable occupation, labourers, craftsmen, traders. Italian labour has been the complement of British capital in furthering national progress. Finding a home-like climate and a kindred tongue, these Latin immigrants were quickly absorbed into the Hispanic community; the children of an Italian are enthusiastic "Orientales". Immigration is now controlled; some slight recent addition from Central Europe and the Levant does not affect the type of population. The same is true of some infiltration (not so recent) of negro blood near the Brazilian frontiers. In short, the population of the country is Latin and Southern European in origin and Hispanic in character.

There is constant intercourse with Argen-

The Uruguayan pastoral industry, which is one of the mainstays of the Republic's well-being, owes much to Great Britain. These Hereford cattle are bred from stock imported from England

tina and frequent inter-marriage. The same form of the Spanish language is spoken on both sides of the estuary.

Uruguay is situated between 30° and 35° South latitude—approximately the latitude of New South Wales and the Cape—and possesses, like these countries in two other southern continents, an excellent climate, wholesome both to mankind and to the cattle and sheep which are the country's wealth; apt also for the cultivation of all the grains and fruits of the warm Temperate Zone. Summer heat is seldom excessive, though powerful enough to ordain—during the hot months, November to March—a halt of rural labour in the hours of siesta, hours when all nature rests. Winter brings cold winds and occasional night frosts, soon dissipated by sunrise. Normally the rainfall, distributed throughout the year, is sufficient, but occasional long droughts afflict the stock farmer, and visitations of locusts sometimes do much damage, especially in the north.

The country in general is a vast expanse of grass, excellent natural pasture, treeless except for low scrub bordering the more considerable streams. Travelling all day, one looks out on the same unchanging prospect, diversified here and there by patches of maize or wheat or oats. At long intervals groups of eucalyptus trees, planted round some estancia house, dot the sea of grass like islands. The country, in fact, is an extension of the Pampa, which in former days—before its transformation by the plough—was also a sheet of grass.

But the Uruguayan grass plain is not just a flat continuation of the monotonously level Argentine Pampa. For the country is traversed by ridges, sometimes many miles long, known as *cuchillas*. The sides of these cuchillas slope down into wide hollows along which slow streams find their way, sometimes mere trickles or ditches, sometimes a considerable flow bordered by a belt of rough wood. The cuchillas are topped by a hard crust known as *tosca*, which provides a natural road. Uruguay, unlike the stoneless Argentine Pampa, possesses excellent stone, chiefly granite, besides marbles of much variety and beauty.

In the north, towards the Brazilian frontier, the scene changes; here are rocky hills and timber of considerable size. But the pervading landscape is the widely undulating grassy plain, studded with homesteads (*estancias*). Every homestead is the centre of great wire-enclosed fields, stocked with sheep and cattle,

Dorien Leigh

Farm sheds near the estancias house the peons who work on the land. The monotony of their lives is periodically broken by a rodeo and by the annual sheep shearings

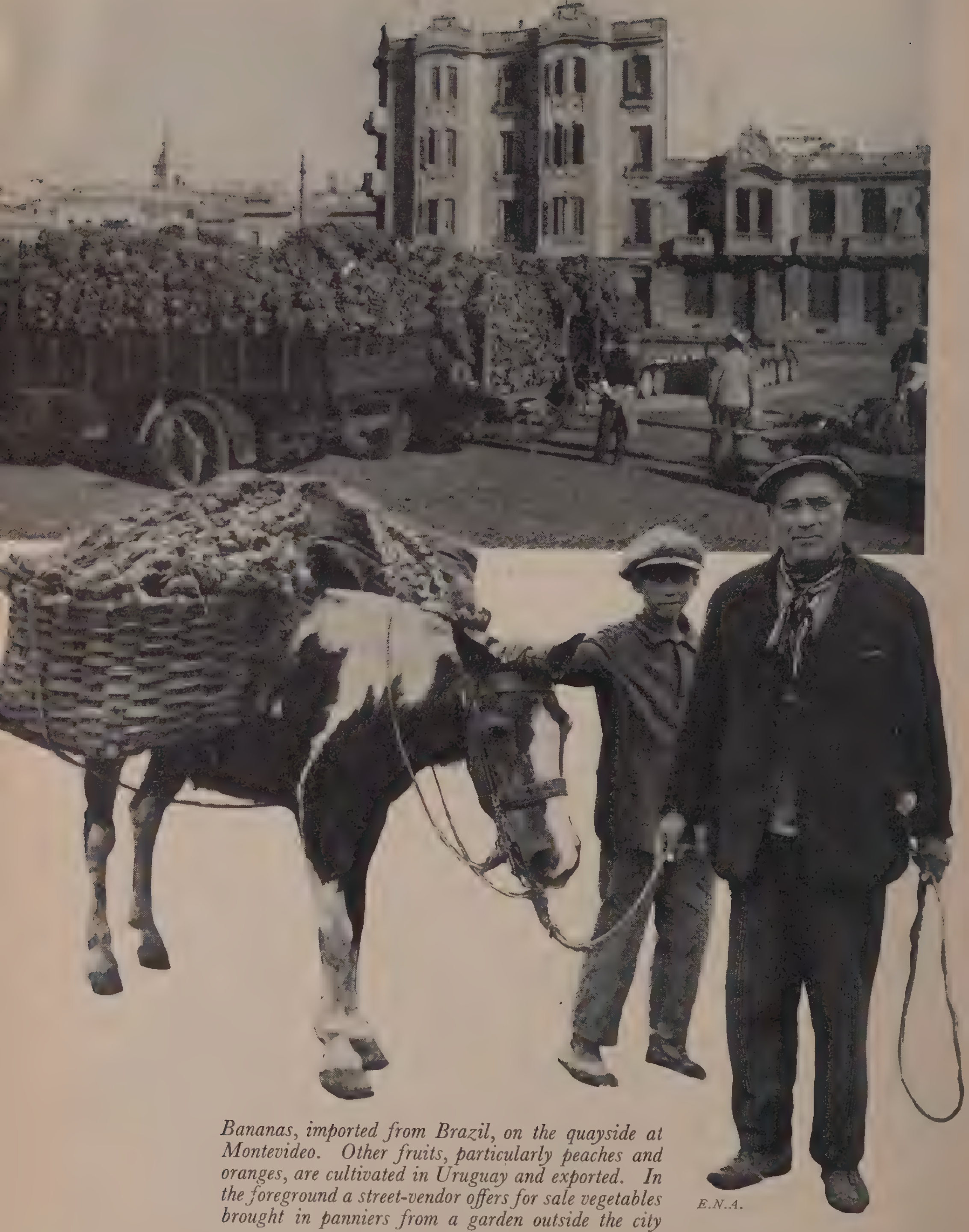
which are tended by mounted farm hands (peons), every man having a formidable knife stuck through his belt across his back. This serves him for every purpose, from slaughtering an ox to eating his dinner.

The estancia house—with its eucalyptus grove, its garden of fruit and vegetables, usually also a patch of tillage—is commonly a low rambling edifice. Near it are the farm sheds, and the shed—for it is nothing more—which houses the peons. Adjacent is the corral, an enclosure of strong posts and rails, into which cattle and horses are driven at need. The annual routine of pastoral work is diversified by the occasional *rodeo*, the round-up of cattle for branding: nowadays a tame affair, formerly a scene of galloping horsemen and cattle roughly thrown with the lasso. Today the lasso is out of date. But the great event of the year is the annual shearing; for wool is the estanciero's main stand-by, just as it was in Argentina sixty years ago.

The soil is apt for tillage, and agriculture has increased in recent years, producing enough grain for domestic needs and something for export: a small matter compared with the animal products, which are the main business and provide the bulk of exports. The prevalence of this pastoral life preserves some flavour of the old gaucho creole days.

The country is compact in form, except for a narrow extension northward along the River Uruguay. Thus distances are moderate. Salto, the most distant town of any size, is only 366 miles from the capital. Navigable water skirts most of the border: to the east the open Atlantic with the little port of Maldonado; on the south the wide estuary, where salt water battles for mastery with the muddy flood which drains the immeasurable interior spaces of the continent. Here strong shifting currents baffle and defeat the flow of the tides; and the water rises or falls with a change of wind. The estuary has two ports, Montevideo, near the open sea, and Colonia, facing Buenos Aires. On the west the River Uruguay is navigable as far north as Salto ('the falls'), where cataracts bar further passage. The Rio Negro, the chief interior river, is navigable for thirty miles, as far as the river port of Mercedes.

One-third of the two million-odd inhabitants dwell in the capital, Montevideo, so named from a solitary hill facing the city across the bay. The commercial advantages of the site are obvious; the strategic position is also notable, for the only practicable pass-



Bananas, imported from Brazil, on the quayside at Montevideo. Other fruits, particularly peaches and oranges, are cultivated in Uruguay and exported. In the foreground a street-vendor offers for sale vegetables brought in panniers from a garden outside the city

E.N.A.

age for ships up the estuary runs close to the Uruguayan shore. The port, until the present century, was merely an open roadstead. When a sudden *pampero* (a gale from south or south-west) burst on the place with a rising rush of water, ships sometimes dragged their anchors dangerously. Once, in the early days of steam, a British gunboat was carried half a mile inland and left high and dry as wind and water subsided. Such scenes are past. Some thirty years ago the harbour works were completed, and ships are now moored alongside massive moles furnished with all the appurtenances of a modern port.

The clean and attractive city stands on a ridged promontory between the sea and a bay in the estuary, with refreshing airs from both sides. The rising ground modifies the monotony of the chess-board pattern prescribed by Philip II for all Spanish-American towns. But the city, enlarged and improved, now extends spaciously into the flat country beyond, embracing pleasant suburbs and gardens. Beyond are public parks. The long sea beaches to the east are now well-equipped bathing-resorts, attracting summer visitors from Argentina and Brazil.

Improvement in the amenities of ordered life is not confined to the capital. Uruguay has enjoyed thirty-five years of internal peace—not indeed without serious political incidents; for the past decade has brought two *pronunciamientos* by successive Presidents, who assumed supreme power in order to remedy public ills—a not unusual event in Spain and Latin America. But these two *coups d'état* were singularly free from violence and hardly inflicted a shock.

Until the coming of the motor car, road-making essential to orderly progress was neglected; and, stepping off the pavement of the capital, one stepped back at least a century. To-day 1500 miles of good motor roads link the capital with other towns. A generation ago on large native estancias, owning thousands of cattle, milk was unobtainable: the old-fashioned creole lived on meat and maté and disdained the taming of a cow for milking; butter was regarded as an English eccentricity. Today dairying counts as a national industry; so also fruit-farming; both of them eminently peaceful occupations.

These apparently small matters are typical. Uruguay, formerly one of the most disturbed of Spanish-American republics, now cultivates the pursuits of peace, utilizing the gifts provided by her kindly climate, productive soil and favoured geographical position.

One of the motor roads, among the best in South America, which now link up the interior of Uruguay. It runs from the Sugar Loaf mountain at Rio de Janeiro down to Maldonado

E.N.A.

Farming in the Western Highlands

by MARGARET LEIGH

The particular problems which attend farming in the Scottish Highlands are well-known to Miss Leigh, who told the story of her own farming venture in Wester Ross in a deservedly popular book, Highland Homespun, *published a few years ago. She is still actively engaged in farming and in the picture above is seen at work with a chain harrow*

Up to the middle of the 18th century, when Highlanders lived a poor but independent life in the remote fastnesses of their hills, land in the Western Highlands was cultivated purely for subsistence, and in the most primitive way. After the '45, when the Highlands were 'pacified' and for strategic and other reasons provided with roads, a profitable trade in cattle began to develop. Hardy black beasts grazed on the hills in summer, and on the floor of the glens in winter; they were driven in great droves down to Falkirk and other markets in southern Scotland, where they made good prices. These cattle, reared on ground later occupied by sheep or even by deer, improved the pastures by keeping down bracken and coarse grass. There were sheep also, of the small native four-horned breed; but of far less value and importance than the cattle.

Then came the industrial revolution in the South, and with it a great demand for raw wool. Large sheep farmers in northern England and southern Scotland, who had been breeding the ancestors of our present Cheviot and blackfaced stocks, cast longing eyes on the unexploited hills and glens of the Highlands. Many native proprietors, impoverished first by the results of unsuccessful rebellion, and later by attempts to live like their peers in the south, were ready to accept the high rents offered by the sheep farmers. Then began the wholesale eviction and enforced emigration of small tenants, to make room for sheep, which forms the most melancholy chapter of Highland history. The memory of smoking thatch and ruined cottage, of fertile glens peopled only by alien shepherds and their dogs, survives in many Gaelic poems, and will never be forgotten by the Highland people.

The prosperity of the big sheep farms lasted until, in the second half of the 19th century, the rapid growth of sheep farming in Australia lowered the price of British wool. At the same time, hill grazings were deteriorating through being exclusively stocked with sheep. A new source of profit from Highland land was sought and found. Industrial magnates and other wealthy men, seeking a suitable outlet for their money, acquired vast tracts of hill ground for deer forests, and much land previously under sheep was unstocked and given over to deer. Lodges were built in remote glens, and local people employed as gillies and stalkers. The shooting-lodge gave rather more employment than the sheep farm, but the servile tip-seeking spirit it bred brought no good to the country.

What was left of the small tenantry or crofters lived on the fringe of the sheep farms and deer forests, excluded from the good land they had once occupied. Up to 1884, when their grievances were investigated by the Crofters' Commission, they had much to complain of—unfair rents, restricted holdings, vexatious burdens, insecurity of tenure. Step by step these disabilities have been removed,

All photographs from Margaret Leigh

The fishing and crofting village of Plockton, Ross-shire, on Loch Carron. Behind the houses may be seen strips of arable ground, with corn in stook and swathes of mown hay. In the background are the hills of Applecross, now an extensive deer forest

until today there are few better lives than that of the Highland crofter, plain though it be.

In the Highlands today we find a number of sheep farms, with stock ranging from 500 to 4000 head; some small mixed farms, mainly in Argyll; deer forests, many of which are being taken over by the War Agricultural Committees for stocking with sheep and cattle; and crofts, some owned by the Government, others still in private ownership, but all controlled by the provisions of the Crofters' Act.

Most crofts have from three to ten acres of arable ground and a share of common hill grazing; each man has from two to six cattle, twenty to fifty sheep, perhaps a horse and poultry. Weaned calves and lambs and a few eggs are sold off the croft—the rest of the produce is used at home. Crofting is a part-time occupation, and except where there are old people receiving pensions or remittances from abroad, it is usually combined with casual work on the sheep farms, roads or forestry estates.

A glance at a map will show that the western part of the Highlands is a land of mountain ranges divided by deep glens, each drained by a swift river with numberless tributaries. Both main stream and lateral burns flow, in many cases, out of a fresh-water loch, and the sea itself penetrates far into the land.

The climate is mild, changeable and wet; spring is late and usually dry, and most of the rain falls in late summer and autumn. These conditions, though unsuitable for extensive grain-growing, are favourable to grass; nowhere, except in Ireland, could we find grass and hay of better quality. The farmers' chief difficulties are lime deficiency, bad drainage and bracken. To produce and maintain good grass, the flats in the glens must be well drained and limed, and the bracken on the hill kept under control—no easy matter on ground too rocky for the use of a bracken-cutting machine. Permanent pasture needs drastic harrowing and burning to keep down moss and mat-grass, and long leys do not pay: some grass needs renewing every four years or so.

The hills and glens provide unlimited grazing for sheep and cattle in summer, but the limiting factor here, as everywhere else, is winter keep. Hill sheep, where hoggs are wintered away, require no hand feeding; but for cattle, hay, oats or silage must be provided in abundance. In all parts of Britain hay-making is the farmer's nightmare; but here it is so precarious that many farmers prefer to use special methods which, though they are slow, remove all anxiety and guarantee a good crop. If grass is shut up early in spring, it is ready to cut in June; but on most farms the best grass parks are occupied by ewes and their lambs until the end of May, and the grass is not ready for the mower till

August, one of the wettest months of the year. In uncertain weather, the best practice is never to cut more than you can handle in the day. On the farm I work on, if the weather is moderately good, the swathes are turned once or twice, and then built up into 'coils' or cocks, supported on wooden tripods, which lift the hay from the ground and let the air in underneath it, thus drying it without exposure to the rain. If the weather is really bad, the swathes are gathered green and packed on wire fences, as in Norway, where the wind dries the crop no matter how much it is rained upon. When nearly dry, the hay is carted to the barn, where it has a further drying upon a long wooden rack before being packed back for use. The finished article is of first-rate quality, but its making needs time and judgment.

Oats grow well in the Highlands, and make a fine feed for cattle and horses when fed in the sheaf. For this purpose it is better to cut the crop on the green side. Here also the harvesting is done in stages; labour is scarce, and the ground unsuitable for binders. Potatoes are the best field crop; they are tolerant of lime deficiency and do well in almost any season. The flavour of the West Highland potato is superior to anything grown elsewhere in Scotland. Potato-growing needs a good deal of labour, but only of the communal, intermittent kind which is more easily obtained. But taken generally, arable farming, except on a small scale, does not pay. The weather is too uncertain, and in spite of good work done since the war by travelling tractors, mechanical cultivation is not worth while. Labour, too, is becoming scarcer each year. Except as a hill shepherd, the Highlander does not make a good farm servant. He dislikes steady, and especially monotonous, work, and prefers the greater freedom of crofting and casual labour, even though it yields a lower standard of living.

The chief agricultural products of the Western Highlands are lambs, draft ewes, and wool, weaned calves and stirks. Dairy produce, where made, is mostly consumed at home. Hardy ponies are still bred, particularly in the Outer Islands. Pigs are rarely kept. There is some ancient taboo against them, though everyone eats bacon. Poultry, where properly managed, thrive excellently, though the industry has never been developed on the lines so successful in Orkney. All kinds of vegetables can be grown to perfection, but the people in general take little interest in gardening, and do not care for vegetables.

The farm in Wester Ross from which I write includes some 6000 acres, mostly hill grazing, and carries a stock of 800 Cheviot sheep, herded by one shepherd, who is over seventy years of age, with casual help at lambing, clipping and other special occasions. Before the war, there were also five outwintering Galloway cows, and seven other cows in the byre, three of which were milked for the house, the rest suckling their calves. This number has now been reduced for want of concentrated feeding stuffs. There are also some fifty hens, a Clydesdale mare and a cross-bred colt. For this stock, about six to eight acres of hay are used each year, with (since the war) two acres of oats and one acre of potatoes. The work (not including the sheep) is done by the farmer himself with casual help. Some years ago all the hay was cut with the scythe, but as scythemen became scarcer and dearer, a one-horse mower was used instead. In bad summers, haymaking continues till mid-October, but it must be remembered that in a moist climate fresh bottom grass is always springing up, so that late hay has a much higher feeding value in the West Highlands than it would have in a drier part of the country. An agricultural expert from Reading, who saw and handled some of our September hay, said he had never seen finer quality.

To get these results, the grass-land must be kept in good heart. Permanent grass is limed every seven years or so. In March it is drastically chain-harrowed, to tear up moss and aerate the soil. Rushes and tussocks of coarse grass are burned, and later, in showery weather, sulphate of ammonia is applied. The arable ground is put through a rotation of oats-potatoes-grass, and the grass is left down for three or four years. At one time the grass was sown in April with a nurse crop of oats, but we found that the dry weather so common in spring often checked germination, while the wetness of the late summer produced a lush growth of grass, which, when mixed with the oat straw in the sheaf, made it difficult to dry. We now sow grass seed alone in late June or early July, when the spring drought has broken.

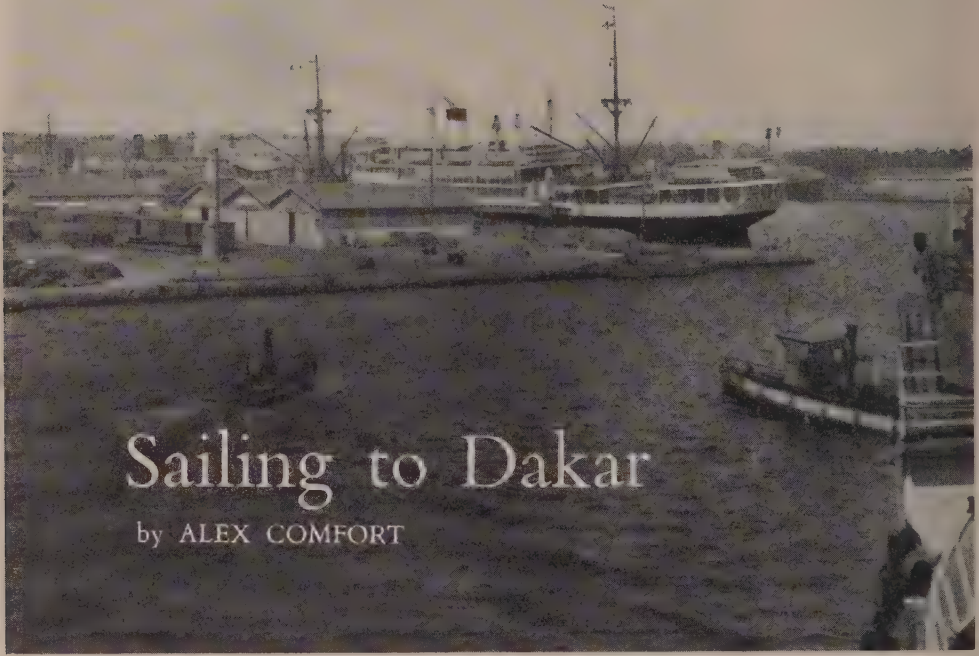
Sheep are, of course, the main business of the farm, and the farmer must keep his hill grazing in order by judicious heather-burning and bracken-cutting. Of recent years bracken has become a serious pest; it chokes the growth of grass and makes the search for

One-storeyed houses, thatched with heather, rushes or bent-grass, were common in Highland crofting townships fifty years ago. Most of them have been replaced by houses roofed with slates or corrugated iron, like the one in the background of this picture

maggot-infested sheep difficult. Many people think that the increase of bracken is not unconnected with the decline in the number of cattle kept on the Highland hill grazings.

The hill shepherd has bursts of strenuous activity alternating with periods of lighter work; but he must always be on the alert, and may have to cover many miles in the day, especially where the ground is rough and visibility poor. His year begins in November, when the rams are put out with the ewes to the hill: by the New Year the great majority of the ewes may be presumed to be in lamb. Through the winter the flock must be carefully herded, though in coastal districts there is not much trouble with snow. Lambing begins about April 21 and continues for about a month; during this time the shepherd has the help of two lambing men, each of whom has his own round. At the end of May the lambs are marked and the males castrated. Clipping begins towards the end of June, first the hoggs, and then the ewes and other sheep. There are two dippings, the first in July and the second in October or November. In August and September, lambs and cast ewes are sorted and sent to the sales. Ewes are not kept on the hill after their fifth year, but are sent to the Lowlands, where they are crossed with Border Leicester rams. It is now the custom to winter hoggs away, usually on East Coast farms. This is a heavy expense—before the war it cost about ten shillings a head—but in view of the heavy death-rate when they are wintered at home the outlay is justified. In certain maritime districts, hoggs can be successfully wintered on small islands, but transport and herding are difficult.

The hill sheep farmer is fortunate in having to employ little labour, and in requiring no imported feeding stuffs; but market fluctuations are severe, and of recent years the industry has shown little profit. But the life is a good one.

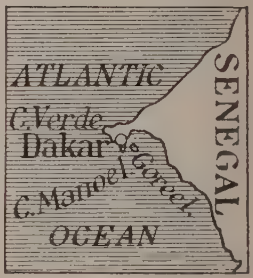


Sailing to Dakar

by ALEX COMFORT

My first recollection of Dakar, or of the Atlantic off Dakar, is a totally irrelevant one. We had been having no end of trouble with the ship's whistles. In sailing with Greeks one must expect the maximum expenditure of ingenuity on any simple job. This time, the watch had sunstroke, and we were endeavouring to rig an awning to the monkey parlour, getting its bolt ropes involved with the whistle cords, and blaming each other for every new serenade. It was dark before we had fairly done, and turning round from the work, still dazzled by the white paint which remained hot enough to blister the fingers, I caught sight of a large yellow butterfly crossing us, and beyond it a red light, which winked. That, it appeared, was Cape Manoel.

As we came in quietly we began to be able to see and smell the coast, black like plush, with the dots of light festooned along the military road crossing it like a necklace. Coming closer still, we lost them in mist round the flat table of Goree Island, where the 'blackbirders' used to have their base. We felt uncomfortably like a blackbirding expedition ourselves, once the lights were out.



The mist stood up in towers, and we chunked along, and then stopped at the place where the gap in the moles should be. The top of the land was standing over the mist with a fire jumping up and down on it, like a signal. Also there was somebody ashore pounding away infernally on some sort of drum, going dot-and-carry-one with the sound one associates with thigh-bones on human skin.

I did not know Africa, and I thought it was coming up to scratch rather well, and that this was a good night for a boarding party.

We steamed round, burning blue lights and blowing, but no pilot would come out to us. Greeks are allowed to wait. We took the sounding with a pipe on a string, measured finger-to-nose by Aristoteles Varvadas, and anchored for the night, turning round slowly, while the radio operator fished illicitly over the counter and the lights went out as the dynamo died. It was hottish, and I had to

Fox Photos

In this Dakar square, there are African trees and butterflies, cast-off European hats, French shops and Czechoslovakian shoes

pitch out the huge oil-lamp thoughtfully put in my cabin by the mad steward.

In the morning one could see the place as it really is. The bay lies under a round green head, with small white buildings on it, and a long mole running out of a clump of naval establishments like a claw. The other mole comes from the shore, running out near a big white barracks, to make a right angle and close in the harbour, except where two cement light cones mark the channel. This long mole was cluttered up with big and little shipping, and beyond it ran a dazzling white strip of beach, going off south as far as one could see, with smoky dunes and bush behind.

The town has the heaped-up look of most tropical ports, white, and running to flat roofs, among the usual enamelled-tin foliage with masses of yellow and red flowers—sensitives and bois-immortel chiefly, but some great showy solanums as well. I noticed that even from the anchorage one could hear that frou-frou of palm fans crossing. There was a high patrol of vultures, going round and round like flies under a lamp, their wings not moving. Goree was low and cragged as if floating, but one could see blocks of tall pinched houses on it, yellow and erect like some streets in Bath.

The coalers coming alongside were also new to me. I was used to those unclean pirates, hailing, I think, from Malta, who coal at Funchal and Sta. Cruz de Tenerife, whose chief ambition is to stow away on board, so that one has to flood the tunnel with strong ammonia before taking them on deck. Here the stevedores were black, polished but dusted over with coal like the bloom on grapes, with European pith hats which had once been white, and enormous teeth. There was a refrain I hadn't heard—"You take my photo, you gimme chemise?"—a sort of barter equally unfamiliar.

Following the Greek captain—in a hard Homburg hat, and finding much trouble because he did not know the French for baking powder—I went up from a white water-front through dust roads with sulphur and chocolate-coloured walls, the dust and the stones alive with fat blue and yellow lizards and numerous crickets. Everything walked, from white bushes on waste land that swarmed with small butterflies and chafers, to the yellow puffs of sensitive plant hanging out of fissures in the wall and leaning over it as trees. The grasses were purple or cotton topped. Down side alleys one could see in among the older houses, and across untidy markets displaying extraordinary fruit, copper goods and baskets, side by side with fish whose mouths contained small human-looking teeth. But the other side of the town, where one provisioned ship, lay on top of the hill. It had wide shady alleys and shops which, glassless, were manfully trying, like every French Colonial shop, to ignore the palms and imagine themselves in Marseilles or Paris, regarding the bright exoticism of the trees and the negresses in Kashmir bedspreads and formidable gold pins as part of a botanic garden and masquerade, fortunately temporary. There were avenues of tall gums, throwing picturesque blue shadows.

I found the shipping office here, beyond a Moorish grille and a small monastic courtyard, paved with ribbed cockles and growing no grass, but densely flowered bushes. In its front garden there was a bizarre reversal: small crested, dusky red birds no bigger than moths sat about watching us, while large yellow butterflies, dazzling as they came out into shafts of light, rushed up among the tops of the avenue gums, and long tapered wasps like two joints of a finger came and went to a nest under the doorstep. In the office the half model of the company's tug stood up against a mirror to double itself.

I also remember that the agent, standing in his door in khaki, did not like the look of me. I was the worse for some weeks at sea. But when he recognized an Englishman he called me in and roared for beer — French beer in bottles. That roar was psychologically interesting, extending the tropical-colonial dictum, when in Africa do as Paris, or Birmingham, does, so long as it is possible.

In Dakar until recently it wasn't possible. Ships would call, and then reach Recife or somewhere else with half the hands dead of one of Dakar's chief exports—malignant tertian, yellow fever, or plague. There was also enteric and cholera to a lesser degree. Going down from town to the dunes I saw officials busily oiling the pools in a dry streambed. Malaria and yellow fever respond well to a simple lowering of surface tension in standing water, which drowns the floating larvae of the mosquito vectors. And the other diseases, the water-borne, have given way to good reservoirs and filtration.

There is a railway station with a white front like a nonconformist chapel, and lines which cross the road. Outside it the inhabitants play—or played—boisterous games of football with bare feet, even at midday when a visitor's shirt is soaked in sweat by a minute's slow walking. There is a long shadow under the overhanging roof of the white naval stores, cast on ground composed of dredged shells and nothing else, acres of it, but whether natural or put down to fill in the mangrove swamps which still persist a few hundred yards off, I do not know. The dunes at midday are blinding white, and on the shore are holes as if made by a walking-stick, peopled with thin high green crabs, littoral ghosts that waltz like lightning.

I do not know anything about the military or the economic importance of the place. I have not the remotest idea where the railway goes. For me the place will remain, unless I have to live there, a combination of colours and Hervey Allen irrelevancies which constitute the tropical coaling port where nobody stays long. But I feel there is a political moral, if I knew what it was, in the very self-conscious mixture of engineered reservoirs and lizards, shops from Paris and *décor* by Bakst, a silent simultaneous playing of La Marseillaise and Scheherazade. I now know why all Senegalese smile, and have an inkling at whom they are smiling.

And the two tunes would never stop playing themselves. We left at night among a clump of native boats with leg-of-mutton sails, and as we passed the two cement cones of the channel's mouth the shadow of the Kondor air liner crossed us, scattering the vultures. After that, steaming along and watching the line of sunken ribs, the exposed engines of sunk disembowelled ships, all along the coast north of Manoel, a coast which goes up and down like a tune, we ate a Chian Greek meal on deck, with the skipper's wife to preside over it: European food, European chatter in most feasible languages, and a lot of mastich and rose water. Being English and a guest, I was given tea and of all things toast, as an addition afterwards, to show we were all joint owners of the ship and nobody was veritably and offensively in command.

I ate the toast, looking back to Dakar and seeing between myself and it rows of fishing canoes, terribly unsafe-looking, with square sails which stuck up from troughs over three woolly heads, and ragged lines of round-bladed paddles like double pingpong bats, going sideways over waves. We had bought the port's entire catch of the human-looking fish. For a long time after we had lost sight of Africa, we found their small teeth lying about the deck.

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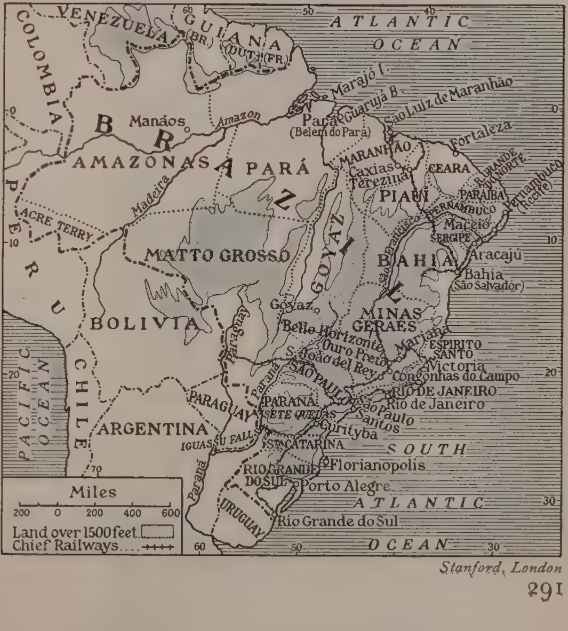
Invitation to Brazil

by PASCHOAL CARLOS MAGNO

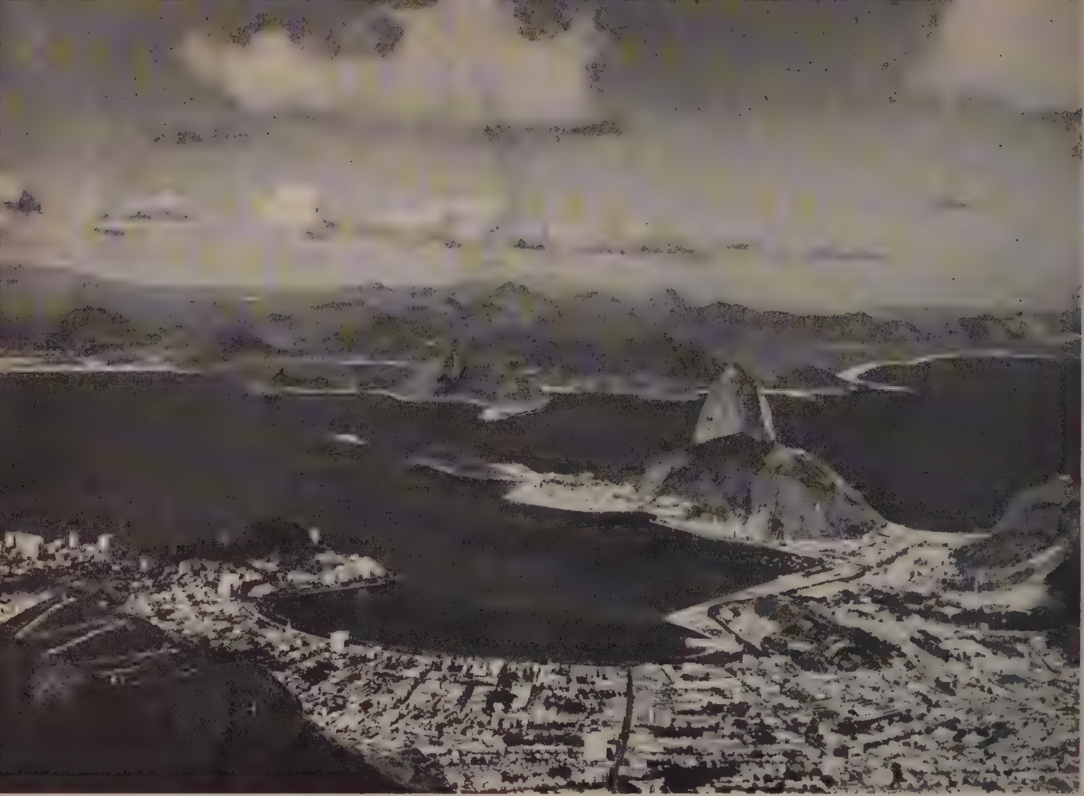
Few Britons have had the chance of visiting Brazil: now that this immense country has become our Ally there is a great desire here to know more about it. Senhor Magno is a member of the Brazilian Embassy Staff in London



Stanford, London

The war has deprived the people of England of the opportunity of indulging in their favourite pursuit of foreign travel; they can only dream about it, but because a day-dream may one day, when the world is at peace again, lead to a real trip, I should like to suggest an imaginary trip through my own country, Brazil.

A difficult problem arises at once. Where to go, and what to leave out? The country with its twenty States is so vast, larger than Europe without Russia. Besides which, everyone's tastes differ so greatly.



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Looking down on Brazil's modern capital, Rio de Janeiro (above), *one can see the astonishing natural features of bay and mountain among which it lies.* (Left) *One of the great motor roads which run through the mountains to Rio*

If, however, you want to see for yourself the most beautiful city in the world, you must set sail directly for Rio de Janeiro, the capital of Brazil. As you approach it an unforgettable vision comes into view of a town nestling among waters and mountains, with fringes of forest that appear to be trying to force their way through every open window. Newly planned, the city stretches out in all directions, with its endless avenues; its streets, wide and narrow, dotted here and there by skyscrapers; its smiling dwellings with creeper-festooned verandahs, the walls of the older buildings covered with gay tiles; its great hotels, casinos, theatres and cinemas. The inhabitants are gay, restless, pleasure-loving and remarkably carefree, meeting at all hours of the day and night at innumerable cafés.

Rio has already been described in a recent article in The Geographical Magazine and you will know what to look for in the great monuments of the city and those astonishing

E.N.A.

The Port of Bahia, founded in the 16th century, was the capital of Brazil until 1763. It is often called São Salvador because its full name is Bahia de São Salvador de todos os Santos: Bay of the Holy Saviour and All Saints

natural features of bay and mountain around which it is built; but I think that among the memories that will haunt you longest will be the avenues of tall palms and the birds whose twitter and song the densest traffic does not succeed in hushing; the public gardens and fountains illuminated in colours by night; the pavements of many of the principal avenues, a joy to behold with their bold mosaic pattern of white and black stones patiently put together by master stonemasons; the lights blazing through the night in extraordinary profusion, even in the meanest streets, in the farthest suburbs, miles away.

Viewing the city thus as a show-window, you must make up your mind whither to proceed. Is it to be towards the north or the south? The map displays to your eye a territory extending over five thousand miles of coast-line, with inviting ports, bays and harbours, and covering an area of over three million square miles.

Should your choice fall on the north, you will visit port towns such as Victoria and São Salvador, or Bahia as it is more popularly known, the original capital of Brazil, 442 years old, with 365 churches, one for every day of the year. There the traveller will see women everywhere in the costume worn on the screen by Carmen Miranda: voluminous skirts flounced with frothy lace, with ropes of gaily-coloured stones around their necks, heavy antique gold and silver bracelets on their wrists, and wound around their arms strings of enamelled beads.

Farther north still, you will see Maceió, an important cotton-weaving centre; Aracajú, one of the chief points of export for cocoa and tobacco; and above all Recife, or Pernambuco as it is generally called. All these towns, especially the last, are criss-crossed by rivers and streams which with their innumerable bridges recall Venice, though no Doge has ever trod them, and for all their network of

Barnabys

Majestic waterfalls are common in Brazil—a land of magnificent rivers even apart from the Amazon. This picture shows the Iguassu Falls on the river Paraná, which drop from a height of 200 feet

waters they know no gondola other than the barges heavily laden with salt, cotton, sugar, cocoa and an endless variety of tropical fruits and produce.

Whether by land, sea or air, our traveller will cross the States of Rio Grande do Norte and Paraíba. This last is the home of the rare carnaúba wax and the babaçu oil kernels, both the produce of handsome palms; it is rich, too, in marble deposits and cotton plantations, as so often happens in a place situated at the mouth of a great river.

Continuing northward, Fortaleza comes into sight, a town of unpretentious appearance, looking, when seen from afar or from above, like a chequer-board. There, on nights when the moon is full, so intense and clear is its light that no lamps are lit in the streets.

Two days' further travel by steamer, or a few hours by aeroplane, and the visitor arrives at São Luiz de Maranhão, the island capital, where he will get his first greeting from the nodding plumes of endless palms. São Luiz, like Bahia, is a town with a wealth of monuments to the old colonial times in the form of centuries-old baroque churches, rich in silver plate, over which time has spread its kindly patina. Everywhere in this town can be seen ancient public fountains carved in stone or cast in bronze by long-forgotten craftsmen.

From São Luiz a train runs in a westerly direction to Terezina, the capital of the State of Piauí, which unlike its sisters does not lie on the coast, and whose wealth is chiefly pastoral. The traveller will do well to possess patience, for the trip takes about forty hours and entails numerous changes. The journey has its own charm, however. The train is full of people dressed in white drill with wide-brimmed straw hats, all very friendly. Brazilian hospitality is proverbial, especially on train journeys. Conversations are started, opinions exchanged and invitations showered on the traveller. "Where do you propose going?" "Terezina?" "What, Terezina, and you don't plan to stop off at Caxias?" "I'd be honoured and delighted should you care to spend a few days on my estate." Such invitations are as sincere as they are spontaneous and our traveller will receive them wherever he may find himself in Brazil. They arise from genuine friendliness and a desire to make the new arrival feel at home, and, should he be a foreigner, to adopt him altogether.

On his arrival in Terezina, the voyager will

Barnabys

An Indian family paddling their canoe along the Amazon. The tropical vegetation, growing down to the river's brink, is alive with chattering monkeys and birds of bright plumage

sleep in hammocks elaborately adorned with lace and bright feathers, eat 'jerked', or sun-dried, beef and be surprised to find in this clearing in a tropical jungle a highly cultured and intelligent people. The students, journalists, professors and men of letters of the State of Piauí are fully abreast of the latest literary trends in Europe and North America.

This same intellectual awareness will be found at Manáos, in the heart of the Amazon country. At the vast mouth of the greatest of all rivers lies the city of Pará, or Belem do Pará, to give its full name, laid out on modern lines on the fringe of Guarujá Bay. Among its treasures is the famous Goeldi Museum, the great botanical and zoological collection of the Amazon Valley.

From Pará, as well as from the other river ports, come the 'Brazil nuts' so popular in Great Britain. In most parts of Brazil they are unknown and, locally, are called 'Pará nuts'. Past this city sail the great ocean-going liners as well as the small paddle steamers and barges carrying travellers along the endless river. Fish teem everywhere, notably the *poraque* or electric eel, capable of discharging electric shocks powerful enough to light lamps or even luminous signs.

At the mouth of the Amazon lies Marajó, an island equal in size to Switzerland. Here archaeologists have unearthed aboriginal designs on stone and pottery which are an inspiration to Brazilian artists of today.

The Amazon provides a never-ending succession of surprises. Birds with flashing rainbow plumage abound. On the trees monkeys jump about and chatter shrilly. On the sandy beaches huge turtles waddle ponderously in search of suitable sites for laying eggs. The noise of purling water mingles with the rustle of the wind as it blows through the endless fruit and flower laden forest.

On the higher reaches of the Amazon, serving the smaller river ports, little paddle steamers, characteristic of the region, called 'bird-cages' are employed to carry rubber, hardwoods, spices, birds and reptile skins, not to speak of passengers, as they proceed on their sleepy way. On the river's brink, half-breeds, descendants of Europeans and Indians, or even civilized full-blooded aborigines, build their houses on wooden stilts, which give the curious effect of houses moving about on wooden legs.

The important town of Manáos reached its zenith at the time when only Brazil grew

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(Above) *Curityba, capital of the State of Paraná.* (Below: left) *A corner of Manáos, the city which lies a thousand miles up the Amazon.* (Right) *Street in Ouro Preto, one of the 'Dead Cities', now classified as ancient monuments, which recall the old colonial days.* (Opposite) *In Congonhas do Campo, another 'Dead City', are some of the finest examples of Portuguese Baroque architecture. The statue is by the gifted crippled sculptor known as Aleijadinho*

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rubber and rubber seeds had not been smuggled out of the country and transplanted in Malaya. In those days it was said that merchants lit their cigars with £5 notes, and they certainly engaged Pavlova and other 'stars' appearing for the first time in the Americas to dance and sing in Manáos's great opera-house of marble and gold which still stands today.

From all these State capitals radiate intricate webs of railways—some ultra-modern, others with more obsolete rolling-stock—which carry the traveller to the farthest boundaries of the country; past plantations of sugar, cotton, cocoa and tobacco; through endless forest, rich in precious hardwoods, bearing fruit, named by the aboriginal inhabitants, unknown to the outside world.

In districts not served by railways, roads, coast-wise steamers or river boats, the traveller now enjoys the advantage of a permanent service of passenger and cargo planes, flown either under Government auspices or by private enterprise. There exists besides a military air service covering the entire country and penetrating into the remotest regions of the interior, such as Goyaz and Matto Grosso, over forests and plains untrodden by the foot of man. This service operates about 20,000 kilometres of traffic lines and carries yearly some sixty tons of mail, in planes piloted by officers of the Brazilian Air Force, at no extra charge beyond the normal postage rates.

In the south of Brazil the aspect differs greatly from that of the north. Huge industrial cities stand everywhere, chief among them São Paulo, that babel of marts and tongues. It is today the first industrial town of South or Central America and combines the characteristics of Chicago and Manchester. In the State of São Paulo 3000 million coffee trees have been planted. Not many miles away on the coast lies Santos, the great coffee-exporting port.

Although by no means the largest towns

Coffee, which these workers are engaged in drying, is Brazil's greatest single source of wealth and its growth and marketing are carefully controlled

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of their respective States, the other capitals of the Southern States are Curityba, capital of the State of Paraná; Florianopolis, capital of Santa Catarina; and Porto Alegre, capital of Rio Grande do Sul, which borders on Uruguay. These are rich in pine, corn, vineyards and maté, the tea of Brazil, and it is here that the cattle industry is most highly developed.

Paraná prides itself on possessing a railway line which, in five miles, rises from the coast to a height of over 2600 feet by means of an ingenious cable system. The line is carried through fourteen tunnels and over thirty bridges, opening up panoramas of extraordinary beauty. In the State of Paraná also lies the great waterfall of Sete Quedas on the Paraná River, the roar of whose waters can be heard twenty miles away, as well as the famous Iguassú Falls with a drop of 200 feet over a width of three and a half miles, with a potential capacity of fourteen million horsepower.

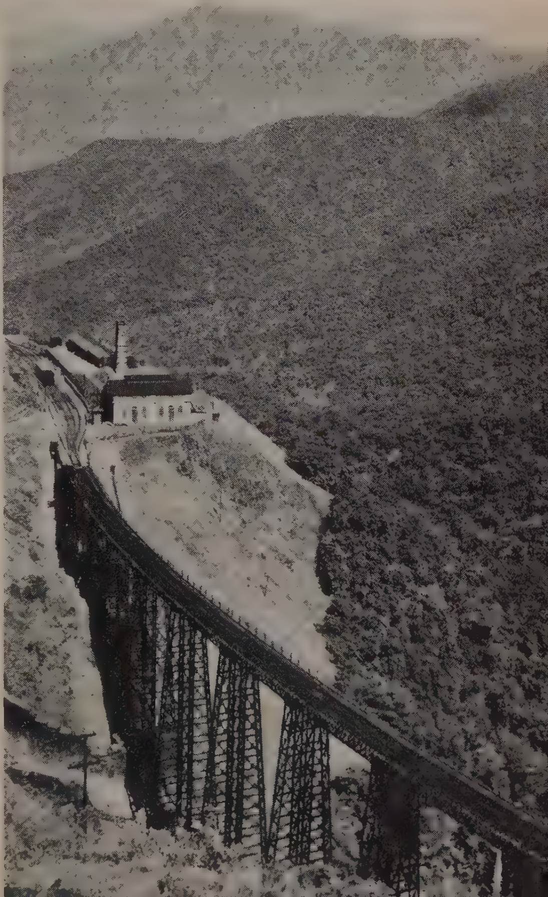
Should the traveller wish to visit the mountains of the State of Minas Geraes (where one range alone contains more iron reserves than the whole of Europe with ore consisting of 60 per cent pure iron), the gold mines and the State's vast herds of cattle, all he need do is take plane or train from Rio de Janeiro and Bello Horizonte. The train journey takes about sixteen hours, by plane it takes about two. Bello Horizonte, the new capital of the State of Minas Geraes, is only some thirty years old, designed on the plan of the city of Washington. A sleepy, narrow-gauge local line leads from this modern metropolis to the chain of the so-called 'Dead Cities' of Brazil, today classified as ancient monuments and thus protected from vandalism. Here lies the cradle of the gold-mining industry—the main source of the world's gold during the 17th and 18th centuries—in the cities of Ouro Preto, the former State capital, Congonhas do Campo, Mariana and São João del Rey, the latter the deepest gold mine of the world today. These towns recall the memory of ancient glories in colonial times, and among the many monuments those by 'Aleijadinho' remain pre-eminent. He was a half-blind crippled leper who in this almost forgotten corner of the world, without help from fellow craftsmen, left behind him, as architect and sculptor, works which can hold their own with the great groups by Bernini.

Wherever the traveller roams, in the north, or the south or the heart of Brazil, he will always meet the same kind of peoples: whites descended from Europeans who intermarried with the Indians, possessors of the land when Brazil was first discovered by the Portuguese in 1500, and with the negroes, whom the colonists imported from Africa; all are bound by the same ties of tongue, religion and custom.

I hope that the traveller I have here conducted round my country, should he be a writer, will not be as lacking in sincerity as some European authors. I recollect one who related that one of his many strange experiences in Rio de Janeiro was to observe snakes coiling around the wheels of his motor-car. This greatly annoyed many of my countrymen. I must say I envied him his lively imagination, for in spite of having crossed Brazil from end to end, on foot, on horseback, by river and lake in canoes and steamers, by car and train, it has never fallen to my lot to come across a single snake of any kind—except stuffed ones or those in zoological gardens or the Snake Institute at Butantan in São Paulo!

Brazil is remarkable for some fine feats of engineering: one of them, the spectacular cable-railway from São Paulo to Santos, is shown here. In five miles it climbs from sea level up to 2625 feet

E.N.A.



Sisal—We Salute You

by H. HAMEL-SMITH

Nearly a third of the world's production of Sisal, the plant which provides the fibre for making twine and rope, is grown in Tanganyika. The author of this article has written a standard work on it, as a result of lifelong research into its production and preparation. The illustrations show the Sisal plantation at Amani, the East African Agricultural Experimental Station situated forty-seven miles west of the port of Tanga on the coast of Tanganyika

Photographs by H. Verbi from Dorien Leigh

Part of the Sisal plantation at Amani, where in 1933 a new variety known as Blue Sisal was discovered which has twice the usual number of fibres to a leaf

THE cutting-off of our supplies of manila fibre from the Philippines for a time, must make us all thankful that we have British East Africa today as a second source of fibre, on which we depend for our cordage supply.

Manila fibre (*Musa textilis*) belongs to the banana family while sisal (*Agave rigida* var. *sisalana*) is quite different. There are numbers of sub-varieties, at least in name, but that is a matter too complicated to discuss here. The name Sisal was given by the American Consul, Dr Henry Perrine, who first introduced the plant into Florida from Mexico, or rather from Yucatan, by way of the port of Sisal. Today the near-by port of Progreso, right on the sea front, is made use

(Left) *Loading the freshly-cut leaves onto the train which connects the widespread stretches of land on the Amani estate. This light railway* (above) *carries the Sisal leaves to the factory* (bottom left), *where the process of decortication* (*extraction of the fibre*) *is carried out*

of. Last year, 1941, British East Africa—Tanganyika, Kenya and Uganda—exported 100,000 tons under orders of restriction while this year they will possibly ship 130,000 tons, the restriction having been removed, and still further increase that quantity in 1943.

Since the province of Yucatan in Mexico is the mother country of this fibre, or at least of the plant that produces it, those who do not even know what sisal is until shown a specimen, and there are many such folk, can well ask how it has come about that British East Africa is today the largest producer of the fibre? Let that query be answered by a few details of the story, remembering that the Netherlands East Indies, Java in particular, is a close runner-up to B.E.A. as a producer, and that, like our scientific staff at Amani in Tanga Province, Tanganyika Territory (T.T. for short), the Dutch have made exhaustive research into the crops they cultivate and how the best can be got from them. One of the leading non-official scientists working on sisal is Mr J. E. A. den Doop, who has called on me in London more than once to discuss production and preparation problems. He surprised me with the intricacies of the work he was engaged on. One would like to know how all these scientists are faring today; good luck to them wherever they are and whatever they are doing.

Returning to the plant itself, the story runs that in 1838 some Mexican, then termed *henequen*, plants were introduced into Florida by Dr Perrine and that, a little later, the same type of plant had found its way to the Bahamas and later still to Queensland via St Helena. In 1893 the Hawaiian Commissioner of Agriculture obtained some 20,000 plants from Messrs Reasoner Bros. of Oneca, Florida. In Hawaii, the famous Ewa sugar plantation was the first to plant sisal on its lands. According to Frank C. Conter, of the Hawaii Agricultural Experimental Station,

In the process of decortication the refuse and liquor from the leaves are allowed to run to waste. After leaving the machine the fibre is sent out to the drying areas

the sisal plantation industry was probably started in Yucatan by the Toltec Indians, who emigrated from Central Mexico to Campeachy about A.D. 1060, just before William the Conqueror came to England. In 1832 Dr Perrine, then U.S. Consul at Campeachy, the chief seaport of Yucatan, gave the name of *Agave sisalana* to two varieties of the Yucatan plant, viz. *yashqui* (greenish) and *sacqui* (white), and four years later, in 1836, he introduced the greenish variety into Florida.

In their very informative pamphlet, No. VIII, on *East African Sisal—from Leaf to Sheaf* (price twopence only), the Imperial Institute claims that the sisal (or henequen) plantations formed by Perrine in Florida were never exploited and that Perrine lost his life in the war with the Seminole Indians, which dragged on for six years, from 1836 to 1842.

Many of the plants, however, seem to have survived and continued to grow in a wild state along the coast and on the neighbouring islets. The same pamphlet, when giving details of the useful purposes to which sisal fibres, suitably prepared, can be put, instances the case of a sisal pile carpet laid in a pavilion at the Glasgow Exhibition which, after being trampled on by more than a million visitors, representing forty-five years of use in a normal dining-room, came out of the test for durability in sound condition.

One day the world will stand amazed at the many uses that can be, and should be, made of the various grades of sisal fibre. Especially should it be found—and in fact with sisalcraft I believe it has been found—suitable for reinforcing waterproof material for covering roofs as well as walls. In Yucatan reports speak of the coarser fibre, roughly woven, being used for covering houses, as such an exterior remains untouched by insects. Again, mixed in a similar manner with wool or cotton waste, shoddy and the like, waste fibre should go a long way to make such materials stronger and more lasting. Since there are many grades in the texture, clinging quality and strength of the fibre, it will not be long before ways are found to use sisal for forming the fabric of motor tyres, especially to build up a strong foundation for the huge wheel coverings of modern agricultural machinery, and of aircraft. Carpets I have already mentioned, while for bedding, couch and upholstering work the fibre could be curled and rendered more lastingly springy; it would then be far preferable to coconut fibre, flock and the cheaper grades of hair. The finer grades of sisal could be used more or less generously for stiffening dress and other materials, while the finest of all, those strong, silky strands of the Yucatan and other varieties (as illustrated in my book *Sisal, Its Production and Preparation*) should find favour for weaving into hats. Mr Alfred Wigglesworth, the well-known expert on all matters connected with sisal, spoke truly when, in March 1938, he said that we were only at the beginning of developing new uses for this excellent and adaptable fibre. Let us therefore once clear up the war and we shall see many fresh uses to which sisal fibres can be put.

The sisal plant has three sources for its generation; whether the third on the list, seeds, is ever used unless by Nature herself seems improbable. Interminable discussions are carried on as to whether bulbils (small axillary buds) are better than suckers or the other way round. Each has its good points, but on the whole, suckers seem to win, since some claim that bulbils are produced on the flowering pole of the plant when more or less dying, while suckers are thrown up from the ground when the parent plant is full of vigour. On the other hand, at times supplies of bulbils are available when suckers are not. As reliable authorities speak of from 1200 to 4000 bulbils being obtainable from a single pole, one can well understand how, at a pinch, these have to be used instead of suckers. The third means of propagation, the seed pods, which some experts declared did not exist, grow on the same flower head as the bulbils. On my table are photographs showing this, side by side with a couple of seed pods sent to me by Mr James Macrae of Longonot Estate, Kenya Colony.

The sisal first starts to be useful when three or four years old and, we are told, continues to be so from six to fifty and to live to be a hundred years old; hence the reason why this product of the aloe family, belonging to the natural order *Amaryllidaceæ*, has been called the Century Plant. Whatever the age it reaches, at the end up shoots a tall pole or flower stem producing the bulbils and occasionally the seed pods and then the plant withers and dies.

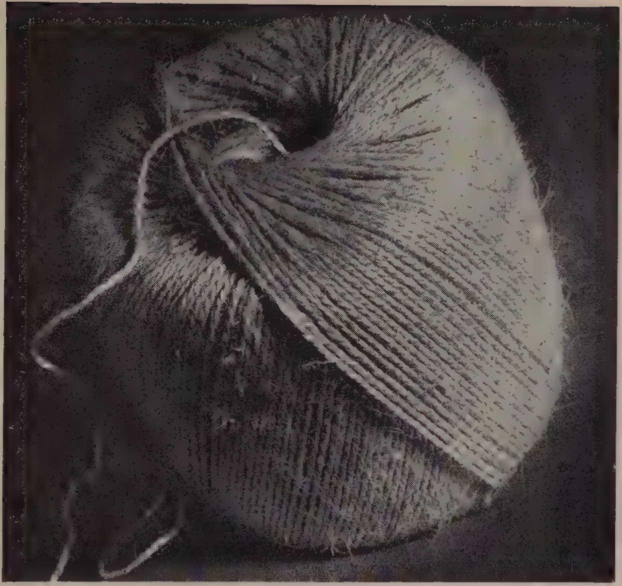
Mtoto girl working Sisal fibre with her hands—not to its advantage, for it may become kinked and matted if handled so light-heartedly

Sisal fibre, after it has passed through the decorticating machine, drying in the open air. When dry and brushed the fibre is packed in bales and transported by rail to the port of Tanga for shipment overseas

Baled Sisal on board ship at Tanga

It is wise, when laying out an estate, to use nurseries in which to bring along the young plants before their final output in the open areas. As regards the final spacing, ideas vary, but 5 ft. between the plants in the row and from 8 to 10 ft. between the rows deserves consideration. This gives room for the bayonet-like spikes at the end of the leaves, which do not then penetrate and spoil the leaves of the plants adjoining, or get in the way of the cutters and carriers when removing the leaves; for to be spiked by them is always unpleasant and can cause real injury. When the leaves approach 3 ft. in length they should be available for cutting from the ground upwards, but they must be cut close to the stem which looks neater and is better for the plant.

At least 1200 to 1500 leaves, on a fully developed estate, should be sent in per cutter in a day, but experts cut far more. When the leaves are cut they are taken in bundles to the factory where the decortication or extraction of the fibre is carried out. The sooner these leaves reach the decorticator or stripping machine the better both for the fibre and the men working the machine, as the outer skin of the leaves soon becomes tough and leathery. The decorticator, a machine with blunt angled metal blades which scrape the outer covering and leave the fibre bare, is helped along with a flow of water, perhaps 80 gallons a minute for a full-sized machine or 100 gallons or more, if the flow is required to wash the acid refuse some distance away. While the water is doing its job, the now freed and degummed fibre is put out across cords on poles to dry. Artificial methods of drying have advantages, but so far sun-drying is still common.



Owen Thomas (*Twine by courtesy of Messrs Straker*)

A 6-lb. ball of binder twine. In this form and as rope Sisal is at present most commonly used, though owing to research at Amani and at the Imperial Institute in London an enormous extension of its use is in sight

The dried fibre, if best grade and top prices are looked for, must be brushed and, after, is very expertly placed in the box of the baling press and subjected to considerable pressure. Generally the bales are finally turned out weighing 4 to 5 cwt. and sent by rail or road to the nearest shipping port and stowed away in the hold of the ocean-going steamer for shipment to the various consuming centres.

In his encyclopaedic book *Eastern Africa To-day* published in 1928, Mr F. S. Joelson tells the story of the start of the famous research station at Amani. Stretching from the valley of the Sigi river to the peak of Bomole, 3600 feet up, it comprised an area of 741 acres. In 1908 Professor Zimmerman, the German scientist who did the pioneer work in establishing the station, became Director. Under him were two chemists, a botanist, a zoologist, a medical man, a head gardener and four under-gardeners as the permanent European staff. Then there were some 300 African and other workers—quite a little army in all.

This was the state of affairs in 1916, when Amani fell into British hands, conquered by a single man, Padre Pearse, a priest of the Universities' Mission to Central Africa. For many years he had been stationed at Kigongoi, a village in the extreme north of the Usambara range and, being on leave in England in 1914, his services were naturally requistioned. Thus he became in due course an intelligence officer on General Smuts's staff. When the British force advanced along the Usambara railway, Pearse was ordered to 'parallel' along the hills towards Amani from the west by a splendid road with the research station. The padre not only spoke the Shambala dialect but was known personally to every native in the district. Zimmerman had posted native boys on all the forest ways to give warning of the approach of the enemy but the sentries, knowing and recognizing the missionary, willingly allowed him to pass and so the Director, taking the air in the cool of the evening outside his fine house, was amazed to see a British officer and the little posse of six Indian regulars coming towards him. The encounter had in it more than a smack of Livingstone and Stanley. "Professor Zimmerman I presume?" said the padre. "True," replied the Director, "but how did you get here?" "Well," explained the other, "I walked from Monga and I now take possession of Amani in the name of His Britannic Majesty." "And," as Padre Pearse remarked in telling the story, "that was that."

Sea Power and National Fortunes

III. From 1688 to 1816

by EDWARD B. POWLEY, late R.N.

The period following that covered by Dr Williamson's second article in this series, which appeared in our September number, saw the end of Anglo-Dutch rivalry at sea. A vaster international maritime conflict developed: a contest with France, which lasted for 125 years and ended only with the fall of Napoleon. Mr Powley, well known as a naval historian, makes this era the subject of his narrative and reflections

TOWARDS the end of the preceding article in this series, Dr Williamson referred to the fact that, thrice in just over the twenty years ending in 1674, the two chief maritime powers of Western Europe, England and the Dutch United Provinces, were locked in sea conflict from which they emerged equal in battle honours, but with the balance in material advantage well on the English side. It had not hurt the Provinces to relinquish New York to England and obtain Surinam in Guiana in exchange. English expeditions had never seriously threatened the far rich East Indian Archipelago. But acceptance by the Dutch of the Treaty of Westminster, in 1674, not only involved them in almost entire exclusion from trade with England and her colonies, but compelled Dutch ships to strike topsails in salute to an English warship's flag sighted between Gothland and Finisterre.

How long would Anglo-Dutch peace have lasted had the catholicizing policy of James II not forced certain English leaders, in 1688, to invite the Dutch Stadtholder, William, to invade this country? William came, James II fled, William and his English princess wife jointly accepted the English crown. Perforce, therefore, the English and Dutch were made partners—the more compulsorily when Louis XIV of France, espousing the cause of the exiled James, attacked the Dutch in the Low Countries and moved to re-establish the Stuart by way of Catholic Ireland.

There never should have been question whether the combined Anglo-Dutch naval forces could outmatch the French. Samuel Pepys, reorganizer of the Royal Navy, was not retained in office; but his legacy to England totalled 170 ships of war, aggregating 100,000 tons and mounting 7000 guns. Whether the naval forces of the five Dutch admiralties totalled as much cannot be decided; the central Dutch naval records have perished by fire. Louis, thanks to his minister Colbert, possessed two fleets: one, *du Levant*, consisting largely of galleys useless for oceanic work, based on Toulon; the other, *du Ponant*, upon Brest.

James II was put ashore at Kinsale, in March 1689, to lead a rebellion already started. When Admiral Herbert failed to intercept French reinforcements in Bantry Bay, the situation deteriorated. Rooke relieved from the sea the Protestants taking refuge in Derry; but not till next year, 1690, was the English hold on the Irish Sea used for the transport of the troops which gained William the victory of the Boyne, scared James II back to Versailles and began reconquest. Unexpectedly, the very day before the battle of the Boyne, a fleet of 60 Anglo-Dutch ships, under Torrington, were virtually defeated off Beachy Head by a force of 70 French vessels, under the command of Tourville. Had the Frenchman subsequently shown energy, the results might indeed have been serious; but he merely raided commerce, burnt Teignmouth and went home. Nor in 1691 did he aid the final resistance in Ireland.

No further chance favoured the French. Louis planned invasion and Tourville moved to cover it; the English Government designed a considerable landing on the Breton coast and Admiral Russell took the project in hand. A five-day battle ended down the coast off La Hougue, with *Soleil Royal*, pride of Louis' navy, and half of Tourville's fleet destroyed. Doggedly in the Netherlands William resisted; the Allies suffered heavy trade losses at sea; but the Treaty of Ryswick in 1697 ended the War of the English Succession entirely in the Allies' favour.

The English made the treaty of 1697 meaning to keep it. Continental adventure stirred no insular imaginations. Even when, in 1700, Charles IV of Spain 'willed' his Dominions of two hemispheres (Spain, the Spanish Netherlands, Franche-Comté, Milan, all south Italy, Mexico, Peru) to Louis XIV's grandson, the threat of so vast an agglomeration of power in the hands of a single man could not stir London merchants and Tory squires to wrath. Content with the North American 'Plantations,' West African and Mediterranean trade, traffic of the Honourable East India Company to Bombay and to the newly added Fort William, Calcutta, the English avoided war until, the exiled James II dying in 1701, Louis impolitically recognized James's son 'the Old Pretender' as English King. Too much! Defoe's 'True-born Englishman' would have no King chosen for him by a foreigner! A few months later William died. But a grand alliance of European powers, of which the 'Sea Powers' (as the diplomats of that age called them) and Austria and Savoy were the backbone, had been built up against Louis. Anne, James II's daughter, succeeded William; and her minister, 'King' Marlborough, did what William would have wished. He took advantage of the command Barfleur–La Hougue had created, a command which Louis, even with the aid of the Spanish navy, lacked the means or foresight to challenge, and put troops on the Continent. Two years elapsed before Marlborough reaped, in 1704, reward at Blenheim on the Danube; but, in the interim, the Anglo-Dutch forces Louis could not confront in the Channel were turned against him elsewhere. A treaty with Portugal (to be paid for in port and drunkenness) having cemented the long-standing amity of the decaying with the rising sea-power, Lisbon became a guaranteed harbour of call for Mediterranean-nosing fleets for the raiding of the peninsula.

There were good reasons why the Venetian and the Turk, though not wholly Mediterranean-bound, should have declined to move oceanically; but France in part, Spain in part, Portugal wholly, looked westward by Atlantic windows. Why had Spain so signally failed to plan and maintain naval efficiency? Why was Portugal in maritime decline? For what cause had France shown herself so far inferior at sea to England? Race, climate, the difference between a continental and an island outlook, the nature and extent of indigenous products, all have their bearing. Spain had never, in any fundamental sense, accepted a sea destiny or recovered from the Armada disaster and the blows of Blake. For Louis to trust to her was useless. But might she not at least, as a military nation, have been expected to protect her natural fortress at the gate of the Mediterranean Sea? Ten days after Blenheim, 1704, a detachment of marines stormed Gibraltar. Soon after, pushing eastward, Rooke, with an Anglo-Dutch force, overhauled the count of Toulouse, who had worked round from Brest *en route* for Toulon, beat him in the battle of Velez-Malaga. Barcelona was the prize of victory, and a 'pincer' attack on Louis's position developed. While it did so, Minorca, with its magnificent anchorage, was secured by Leake. How, solely by the aid of sea-power, Marlborough and his associates marched, fought and wrote such names as Ramillies, Almanza, Oudenarde, Malplaquet upon the colours of English regiments let the history books tell. The Treaty of Utrecht, signed in 1713, which brought the war to an end, took from Spain Gibraltar and Minorca; from France, Acadie (Nova Scotia), Newfoundland, the territory around Hudson Bay and St Kitts in the West Indies. The French and Spanish crowns were never to be united. And England was not to be kept from trading in African slaves to Spanish America.

Anglo-Dutch versus French naval rivalry was much in abeyance for a long spell after the treaty-making of Utrecht, the death of Anne and the accession of the Elector of Hanover as George I to the throne of the United Kingdom and Ireland. Broadly speaking, save for the circumstance that Byng, in 1718, mauled a Spanish fleet intervening against Austrian territory in Sicily, the era of 1739 was one of naval peace. Then, by way of the 'Jenkins's Ear' War, 1739–48, between England and Spain, fought over 'freer' trade with Spanish America, the conflict developed in 1740 into the War of the Austrian Succession and, once more, set France and England in opposition.

In spite of the career of blustering Vernon, Anson's circumnavigation, the operations in North America and India, Anson's lively fight off Finisterre and Hawke's off Ushant, the 1739-48 fighting decided no colonial question; indeed when peace was signed, at Aachen, in 1748, beyond Europe it remained unreal. In India the English and French rival trading companies manœuvred to take advantage of dynastic confusion; in America the Canadian French aimed to work down from the lakes to the Mississippi and pin the English colonists to the seaboard. Seven rather restless years preceded the new outbreak in 1756. England having allied with Prussia to defend Hanover, France and Austria made common cause.

Byng, for losing Minorca, was courtmartialled and shot, and there were several false starts; but once command of the Channel had been asserted by Hawke, in 1759, through the blockade of Brest, and of the West Mediterranean by Boscawen, facing Toulon, the situation was well in hand. The plan of the French admiral, La Clue, to slip from Toulon, join with Conflans at Brest, sweep the Channel and cover an invasion was well known to the Admiralty. La Clue did get out, passed the Rock, but was pursued and beaten off Lagos, in August. Hawke, on a wild November day, swept in upon Conflans in the shoals of Quiberon Bay. No sea battle compares for daring with Quiberon Bay, and it would be difficult to name, other than Trafalgar, a completer victory. On the day that Quiberon was fought, Saunders reached the Channel—back from Canada where he had placed Wolfe upon the Heights of Abraham to take Quebec, so carrying a stage further the work the navy and army had accomplished a year before in the capture of Louisburg. Far to the east, Clive and Coote had, with exiguous forces but not without naval aid, won firm foothold in India.

The rest of Canada, Belleisle in France, islands of the West Indies and, when in 1762 Spain joined the war, Havana in the West Indies and Manila in the Philippines all fell to English sea-power—to English sea-power, since, in this war, the Dutch were spectators. The Seven Years War stands as a classic example of naval strength well applied—the glory of the elder Pitt, though the great minister was pushed from office ere the war's ending stages and before the conclusion of the Peace of Paris let off the beaten foes lightly. France ceded Canada, Cape Breton Island, Louisiana, Grenada, Senegal and Minorca. She received back Belleisle, her Indian stations and certain West Indian islands. From Spain, Florida and rights in Honduras were taken, but Cuba and the Philippines were handed back.

Possessed of an empire, George III and his first governments miserably mishandled it. Far from unreasonably, Crown and ministers desired the old American colonies to contribute to the cost of a war which had freed them from the French-Canadian menace; but to the doctrine 'no taxation without representation' they turned an unheeding ear. Mercantile restrictions were left unremedied or clumsily modified; and the 'Boston tea-party' incident, with the consequent punishment of the port, precipitated rebellion. So July 1776 brought the Declaration of Independence and the birth of the U.S.A. Next year, 1777, England's main military plan went agley and Burgoyne surrendered at Saratoga. So far, English admirals had had small difficulty in convoying troops, much more in dealing with privateers abetted by France and Spain—even the Irish linen trade had had to be protected. Yet, such was the naval (and military) strength of England that the colonists' cause was unassured till long after 1777.

France, looking for revenge, came into the fray in 1778 but Keppel and Palliser held their own off Ushant and Howe disputed the American waters. In 1779, in lumbered Spain. Yet, though the French and Spanish demonstrated as high as Plymouth, they suddenly faded out of the Channel. Christmas turned, Rodney sailed with relief for the Rock and Minorca; in January 1780 he smashed the Spanish admiral who barred his passage off Cape St Vincent; he did his work of relief and held on for the West Indies. Ireland was rightly restive, India in ferment; Amsterdam chose to finance the new U.S.A., the Dutch were loud in protest at our stoppage of ships to search for contraband of war. In June 1781 'Vinegar' Parker and Zoutman encountered in the hardest-fought engagement of the war, from which Parker came the better off. Help promised to the Dutch by Russia, Prussia, Sweden and Denmark never materialized. Dutch naval strength had passed its meridian.

There were at this time some four hundred English warships in commission, a force equal to the whole sea might of England's enemies. Britannia, hard pressed in America, still ruled the waves.

Alas, in October 1781, temporary loss of the command of a single bay, the Chesapeake, on the shores of which, in Yorktown, General Cornwallis was surrounded, proved fatal to the English forces on the soil of the U.S.A. Cornwallis, who might have been relieved from the sea, surrendered. "My God, it is all over!" declared North the Prime Minister, and gave up fight against the stars and stripes. In fact the war was far from finished. Though in March 1782 Minorca fell—and with it North—Rodney and Hood in April beat, off Dominica, the fleet of de Grasse, hammered it by departing, not entirely by design, from orthodox methods and breaking the French line into segments to be separately attacked. September saw the last main Spanish onslaught on the Rock, and the whole year witnessed Suffren, ablest of French admirals, foiled off the Madras Coromandel shore.

The Peace of Versailles, 1783, gave the U.S.A. her place among states. Tobago and Senegal were ceded to France, Minorca and Florida to Spain; but the Dutch yielded England the right of free trade with the

Rischgitz Studios

Gibraltar became a British possession in 1704 and subsequently withstood many attacks by France and Spain. This 18th-century print, now in the British Museum, shows the Spanish assault of February 7, 1727

East Indian archipelago.

Thus ended a war that should never have been begun. It taught a salutary lesson; it left intact English sea-power. Within five years of the 1783 Treaty of Versailles and loss of America, Arthur Philip landed his first gang of convicts at Botany Bay. So, *terra Australis*, touched by the explorers Torres, Tasman, Dampier and Cook, was, by strange compensation, to come at this hour of greatest loss into English control.

The great French Revolution of 1789, which Fox hailed and Burke opposed, brought us in 1793 to new unsought hostilities with France. The war opened dully in the Channel, spectacularly in the Mediterranean, where Hood captured Toulon, virtually destroyed the French fleet but failed to retain the great arsenal. The French harvest of 1793 was bad and Villaset-Joyeuse left Brest in mid-May, 1794, to meet an urgently needed grain convoy from the U.S.A. Reconnaissance moves by Hood, the English admiral, and four days' intermittent fighting ended off the south-west of Ireland at breakfast-time on June 1, when not unequal forces took line, the French to leeward. That day, departing, at his professional peril, from strict Fighting Instructions, the sixty-eight-year-old Howe made tactical history—the 'Glorious First of June' was won by each ship aiming to break the enemy line and engage him to leeward. The convoy got through but the French accepted the decision for Atlantic waters.

Soon the Republic overran Holland and the Dutch navy was turned against England. Duncan watched the Texel. In the Mediterranean, Corsica was lost and Spain turned from useless ally to foe.

It was well that Howe's victory gave us partial respite, fortunate that Hoche's descent on Ireland, late in 1796, was destroyed by storm; for in 1797 lower-deck unrest seethed at Spithead and the Nore. The story of the settlement of the mutinies must here be passed over; nor can the tale be told how Jervis routed the Spaniards, who were two to one, off St Vincent, and Duncan, the odds even, succeeded against the Dutch off

National Maritime Museum

Contemporary paintings of two great sea battles which now hang in the National Maritime Museum at Greenwich: (above) *Quiberon Bay, fought in 1759, by Joseph Wright of Derby* (*1734-1797*) *and* (below) *Camperdown, fought in 1797, by Fittler Loutherberg* (c. *1740-1812*)

National Maritime Museum

Camperdown in North Holland.

Britain stood absolutely alone. Brueys d'Aigailliers took Bonaparte and his army to Egypt. Syria was menaced, India threatened; Nelson, wounded at Santa Cruz, was detached by Jervis (now St Vincent), followed and, at Aboukir Bay on August 1, 1798, almost annihilated the French fleet. Nelson lost an eye, received a peerage, served with reprehensible dereliction off Naples. England, to forestall the use of the Dutch fleet, sent Parker into Copenhagen Roads. The Peace of Amiens—mere expediency—was signed March 1802.

When hostilities were resumed in 1804 Napoleon had reached despotism. One idea dominated—the invasion of England. While the *Grande Armée* massed at Boulogne, Keith in the Downs, Cornwallis from home ports, Nelson from Sardinia, blockaded the whole littoral from Rhine to Rhone. The old problem—how to get the Toulon fleet to make the 2000-mile voyage to effect junction at Brest to sweep the Channel—was sharply revived.

After a year and a half's imprisonment in Toulon, Villeneuve tricked Nelson. Whither had the Frenchman sailed? Egypt? Nelson looked down the Mediterranean. No—not there! Then Nelson learned that Villeneuve had passed the Rock. If Villeneuve, picking up Spaniards, had steered Biscaywards, Cornwallis would deal with him. Just to have searched for the admiral in the wide Atlantic would, Nelson knew, have been as foolish as looking for the proverbial needle in the bottle of hay. He deemed Jamaica Villeneuve's objective, informed the Admiralty of his plans and sailed to the West Indies. He found Villeneuve *had* been in those waters but had weighed. So Nelson headed for home. Villeneuve's force was not, however, destined by the gigantic feint to secure junction at Brest. Calder, serving under Cornwallis, diverted the foe into Cadiz. Nelson after a brief stay in England sailed in the *Victory* to assume blockade of Cadiz or tempt his rival to fight. Stung by the taunts of Napoleon, the rival emerged—to the waters of Trafalgar, October 21, 1805.

Napoleon, beaten by the blockade, had broken up his great camp before the battle began. Trafalgar, though less hazardous than Hawke's great Quiberon, less fierce than Duncan's Camperdown, was a shattering victory, a seal set upon long achievement. Our too sentimental populace, unable to gauge the professional merits and shortcomings of admirals, has made the victor of the Nile and Trafalgar the national hero *par excellence*.

After Trafalgar the exercise of command had for main end the protection of English trade, and the ruin of that of France, her dependants and allies. England could and did stop ships entering Napoleon-controlled ports ; Napoleon, unable to prevent by force ships entering British harbours, declared that any which touched them should not again moor in a Continental haven—except to be confiscated. As he ruled most of Europe and was allied to Russia, the threat was serious. But the pressure on the neutrals eventually defeated itself—first of all in Russia. Then England saw and took the chance of using her sea-power to intervene in Spain to forward those persistent campaigns that blazoned new Spanish names and, finally, 'Waterloo' on the colours of Wellington's regiments. Napoleon surrendered to the captain of H.M.S. *Bellerophon* and was borne to remote St Helena.

Sea-power had won. Sea-power had freed Europe. By the treaties of 1814–15 England gained from France Malta, Tobago, St Lucia and Mauritius, from the Dutch the Cape and Ceylon and Guiana.

For epilogue let us enquire how, apart from preserving England from repeated threats of invasion, did this sustained and gigantic 18th-century display of sea-power really advantage national fortunes? Sea-power was not responsible for the agrarian revolution—the enclosure and tillage changes which enabled England for several decades after Waterloo to feed herself; sea-power did not *cause* Kay to invent the flying shuttle, Hargreaves the spinning-jenny, Crompton the mule, Cartwright the power-loom; not the exploits of admirals but simple wastage of woodlands led experimenters to smelt iron from coal instead of charcoal, a process which heralded the age of iron. Salt water had nothing to do with the steam engine, though, by accident, it was an Admiralty official, Cort, who made possible the commercial production of steel. And yet, without the vast 18th-century display of sea-power, there would have been no Industrial Revolution. Only sea-power could have brought raw cotton to feed the new-devised machines for spinning and weaving. In 1750, three million lb., in 1815 1000 million lb. were imported. And, when that cotton had been manufactured and baled for foreign consignment, only sea-power could have ensured its transport to markets abroad. Coal-mining, iron and all other manufactures must have stabilized their outputs at the points at which the home market reached saturation, had not sea-power opened the marts of many and remote lands. A growing Mercantile Marine took English products abroad, brought back the wealth of continents in exchange. For whom? Admittedly for the few. But that is not part of this story.

E.N.A.

Egypt's Women

by MARY ROWLATT

Miss Rowlatt, who has lived in Egypt for over twenty-five years, writes here of the changes time and progress have brought to Egyptian women. This first picture shows two working-men's wives, and a baby clutching sugar cane. The woodwork screen over the window is a feature of old Arab houses

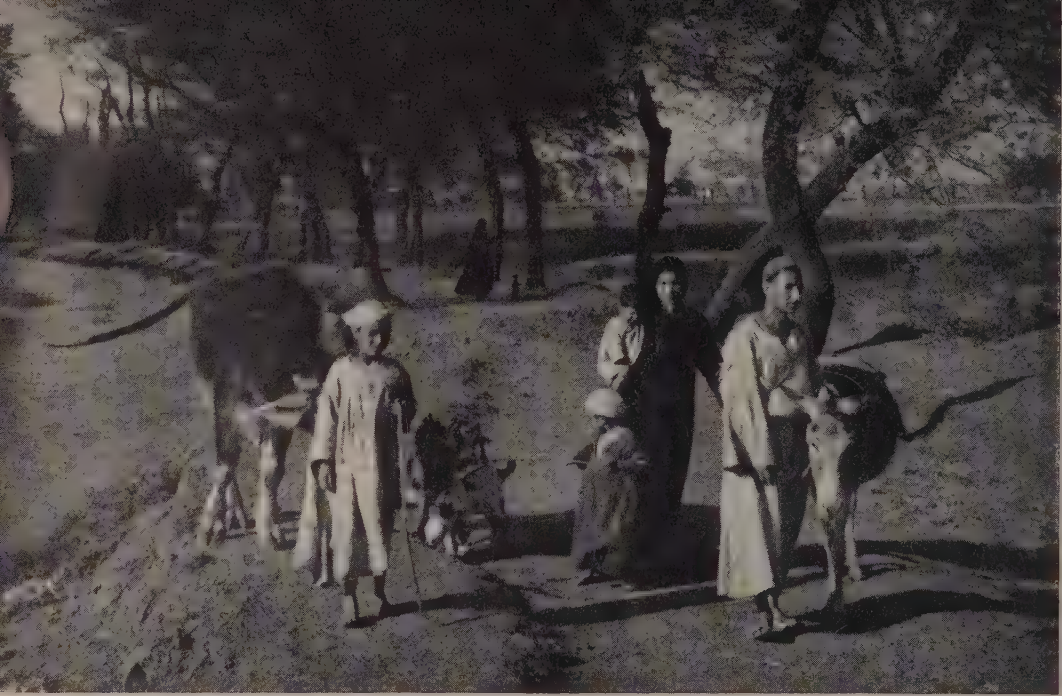
It is April 7, 1940; a hot spring evening. The Egyptian stars overhead are like sequins heavily scattered on black satin. There is a stillness over the city and over the dark Nile running noiselessly past. Throughout the day everyone has known that at any moment their well-loved young Queen would give birth to her second child. So here they sit after the evening meal on benches in the streets, puffing their hubble-bubbles in cafés, or strolling in gardens under the palms by the river. Suddenly at eight o'clock a cannon from the citadel fort above the town thunders out. The thought at the back of everyone's mind leaps to the front and they rejoice. 1, 2, 3 cannon rounds . . . 37, 38, 39. Will they hear the full salvo for a prince or end on the 41st for a princess? 40, 41—and the old cannon has no more to add. His news has been conveyed to everyone. Princess Fawsia has seen the light of the Egyptian stars.

She is King Farouk's and Queen Ferida's second daughter. What sort of an Egypt have these two little princesses inherited looked at from the woman's point of view? The very scenes of festivity accompanying their birth were signs enough of the change. Girls had been born and welcomed in the valley of the Nile many times over by royalty and peasant. But these are the first instances of public rejoicing on a large scale except for the birth of a prince. There must have been many an old workman and tiller of the soil who scratched his head that night, thinking, as he watched the fountain of fireworks, that if his young King thought fit to celebrate thus for the gift of a second daughter then the gift of daughters must perhaps be worth more than he, in his generation, had been led to suppose.

Unlike Turkey, where the emancipation of women happened almost by the stroke of a pen overnight, the broadening and altering of women's lives in Egypt has taken place gradually, sometimes imperceptibly, here a little and there a little. Each Moslem country must have its own plan for the development of its women and its own strategy for bringing about that plan. Egypt has been consistent in her policy. In the educated classes the brake has come from the top. On the whole, the higher the social standing of the family the less social freedom women are allowed.

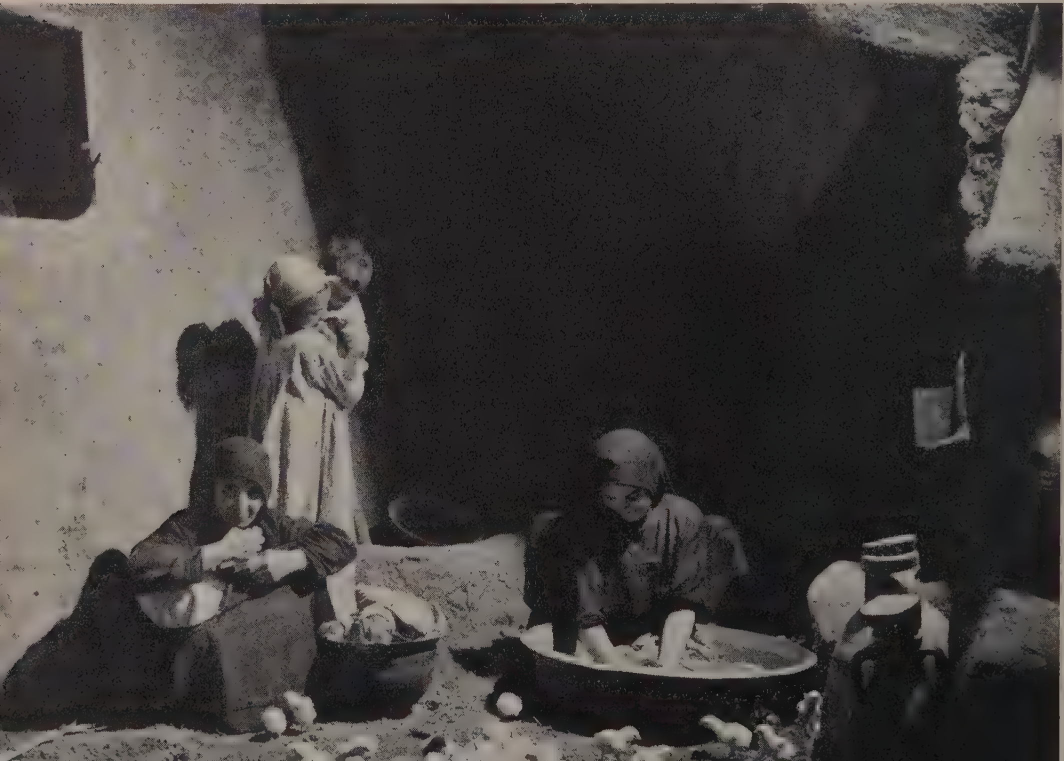
When King Amanullah of Afghanistan and his Queen visited Egypt on their way to Europe they arrived at Port Said dressed as Europeans. It was soon made clear to them

A village highway. The little canal is used for all manner of washing. The women on the right are scouring out their cooking pots. Dried maize stalks can be seen stored on the roofs of the houses, to be used for fuel and many other purposes



Metcalf, from Black Star

(Above) *The family returns home along the canal bank to their evening meal. The buffalo supplies them with milk and cheese and the kids with a very rare meat meal.* (Below) *Women washing clothes in a copper* tisht. *The chicks are hatched in hand-made mud incubators of the same type as those used by the ancient Egyptians*



that the King's presence in a mosque would not be acceptable while he continued to wear a European hat. And as for the Queen, she was informed that somehow on the train journey from Port Said to Cairo she would have to find in her luggage, and put on, something that would act as a veil for her face. Thus she was met at Cairo station, somewhat flurried, with a sort of veil pinned onto either side of her hat-brim covering the tip of her nose and chin.

The fine white muslin veil is in practice worn now only by royal ladies or by others when going to court. It is extraordinarily becoming and often dropped to just below the mouth. Their heads are also swathed in white muslin, lightly arranged and really attractive.

Egypt's ruling house has been of Turkish origin since Egypt virtually broke from Constantinople in the time of the great Mohammed Ali, early in the last century, so court etiquette is derived from Ottoman customs. It is interesting to trace the original reasons for some apparently unreasonable rules. For instance, the right hand with which you greet the Monarch or his Queen has always to be ungloved, for under a glove can be hidden many things, including a poisoned stiletto. Then the graceful deep courtesy with a sweep of the hand towards the floor and over the head, which all Egyptian women use to their royalty, is symbolic of gathering up cinders, dust and other emblems of humility and placing them upon the head.

The Egyptian attitude towards the freeing of women from old conventions is neither retrogressive nor essentially conservative; it arises from the instinctive wish to preserve the dignity of the well-to-do women. I have known Egyptian women whose husbands and fathers have been delighted that in Europe they should live as Europeans and do anything that they liked; but when they returned to Egypt they had to conform to certain rules and behaviour.

But progress in these matters is continual and steady. For instance, a few seasons ago in the Cairo Opera House one could look up to the Queen's box, and there she would be, in a beautiful evening dress, intensely interested in the performance. That the Queens of Egypt should attend the opera is nothing new; but ever since the Opera House was built, in honour of the Empress Eugénie's visit when she opened the Suez Canal in 1869, ladies of the Egyptian royal court have sat in their box behind a black lace screen, invisible, and nothing but a slight movement and a whisper could tell you that they were there. On this occasion, when the Queen appeared in view, no announcement had been made in the newspapers, no comment appeared afterwards and no one in the Opera House stared, though all registered in their minds that one more convention had dropped silently away. On the other hand, when I was last in Egypt, just before the war, the young Queen still sat in her gallery behind a lace curtain when attending a banquet at the Palace if the guests were men and women; and when motoring through Cairo she still drove in her own car following the King in his.

Many Europeans unacquainted with Egyptian women jump to the conclusion that every ban lifted from harem life must be enthusiastically hailed by the ladies concerned as another bar down from the prison window. The fact is, especially among many of the older generation, that they often look on some of the freedom from restrictions as rather beneath their dignity and therefore not to be hurriedly accepted. A few years ago at the close of a harem party my hostess, the wife of the then Prime Minister, was discussing with her daughter whether they would go on to a later evening party. "You can go if you like," said the elder lady, "but I'm not coming. There will be men there and odds and ends like that." The Arabic word she used signifies something of which you do not so much disapprove as faintly despise. Rather an interesting if surprising attitude towards a solemn and respectable party.

Though progress may be slow in what is after all only social etiquette, growth in the actual work accomplished and responsibilities taken on by Egyptian women is immense. Nearly two generations of girls educated in Government schools have now grown up. On the whole the first generation did not go much beyond the usual accomplishments and some culture, but the second generation has achieved width of outlook and a sense of responsibility. There are now many arts and professions in which Egyptian women have proved themselves proficient, such as medicine, law, painting, nursing and social service. Nor is there a tendency to rest on laurels attained. At speech day in an Egyptian girls' school recently, a professor from one of the universities captured the imagination of his hearers with his vision of the future. He prefaced his remarks by saying that the 18th century had been the age of the freeing of men, the 19th century of animals and the 20th century of women; he then prophesied that some of the eager intelligent children listening to him would be in the Cabinet—

Metcalf, from Black Star

A room in a village welfare centre. Clothes are being made for distribution to the poorest patients. On the wall are photographs of King Farouk and his family and a government poster graphically picturing the danger of disease-spreading flies

would be Ministers of Education, of Health, "And why not," he added, "have a Ministry of Good Taste run by women?" The speeches by the girls themselves, too, were excellent, in English, French and Arabic. They obviously enjoyed speaking in foreign languages, but they revelled in their own—the great rolling classical tongue. The sentiments expressed, if acted on, would indeed lead quickly to a splendid, go-ahead, unselfseeking Egypt. But what guidance or power outside themselves have the majority of these children to help them in giving practical expression to their sentiments?

In the meantime chances for social service are springing up rapidly. There are societies run entirely by Egyptian women, who have succeeded in starting day nurseries and orphanages for girls where the pupils are taught trades and given a general education. There is a scheme for training nurses in child welfare, to work at clinics in both towns and country where the need is tremendous. There is also a recently formed school of social studies with courses on social reform. Social work, for Egyptians among Egyptians, is taught as a career; this is working well although there are difficulties. One of the chief of these is mentioned in a letter recently written to me, that "the students all seem to get married the moment they are trained!" This is certainly disappointing for the hard-worked staff. But who knows if it will not lay even firmer foundations for the country's good in the long run? For is it not the homes these students found and the children they bring up which will count in the end?

Another activity which the imminence of war brought forward is the Red Crescent

Metcalf, from Black Star

An Egyptian trained nurse giving a talk to village girls. Her audience is mostly wives and mothers in their teens, who are more likely than their elders to accept the new ideas on health, especially when put clearly and simply as by this nurse

Society, the equivalent of our Red Cross. Fine work has been done by it among the families evacuated from Alexandria when the bombing took place, and since then in organizing A.R.P. classes in the towns. As early as the winter of 1938, flocks of Egyptian girls went to the big Government hospitals to learn First Aid and Home Nursing. It is hardly possible to give a general idea of how they responded to this. I can only say that some were frivolous and unreliable while others were most useful and intelligent.

I can, however, go into greater details, from first-hand experience, as to the way in which a group of Egyptian village women reacted to their first tuition in First Aid. It was rather a reluctant crowd, varying in age from fourteen to forty, which gathered one hot spring evening in the village school, headed by the Sheikh through whom all preliminary negotiations had been made. Most of the older women had had no education of any sort and were illiterate, so everything had to be simple, and of course described in Arabic. It is an acknowledged fact among Orientalists that every Arabic word has at least three meanings: what you think it means; exactly the opposite; and part of a camel. So linguistically we had difficulties, even though one friend who helped me was an Egyptian herself, of Turkish stock.

One thing which quite defeated us was the technical Arabic name for a vein. We eventually resorted to a term which, being literally translated meant "a hose-pipe for the blood". The women were amazingly quick at getting the point and had fresh and retentive memories. They nearly always came in their best clothes, bright printed cottons, coloured satins and handkerchiefs round their

From Margot Lubinski

Cheerful children at one of the private schools now being replaced by government schools. Their teacher has on the long coat worn by all men of letters of the old order, whether they are the most learned in the land or teach little girls their alphabet. The word on the wall behind him is 'Allah'

heads. This culminated, on the final day of prizes and speeches, in many of them coming with their hair newly waved for the occasion and all their finery on: red celluloid combs from Japan in their hair; bangles from Czechoslovakia on their wrists; and shoes where before were bare feet.

This took place in the early summer of 1939. We made little attempt to link the course of instruction with the trend of world affairs, thinking that nothing much would register in their minds; we concentrated instead on the home hygiene and accident side of it. However, had we explained our purpose at the outset we might have avoided a misunderstanding. All seemed to be going so well at the first lesson that we were disappointed when no one turned up for the second. The Sheikh was summoned in council. He said that he would make inquiries and that we were to come again the following week. Much to our relief some fifteen girls and women now eagerly awaited us, all smiles and explanations. War rumours had evidently been circulating freely and the class had come to the unanimous conclusion that it was, after all, training for the war, and that if they came more than once and showed themselves too proficient they would be marched off, goodness knows where, to tend the wounded on goodness knows what battlefield, immediately. As soon as we had put all our cards on the table—this and this will help you if war comes from the sky or from the desert to your doorstep (we were only five miles out of Cairo)—then we won their complete confidence and were able to proceed.

Their first reaction might have been a hang-over, so to speak, from the old conscript days when their men were marched away to the Sultan's army amid scenes of weeping and wailing and heart-rending grief—not to mention garment-rending. In those days the men sometimes willingly maimed themselves, dispensing with a few fingers or an eye rather than do military service. But the hardships were great and, with pay only if you were lucky, conscription was indeed a calamity. Long after conditions had improved enormously this habit of fear persisted—fear of being taken far away, fear of an authority against whom there was no appeal. I can remember seeing Egyptian men called up for service during the last war in the Labour Corps, under our Army Command. They were being seen off by women wailing as if for the dead, and this with the prospect of good food, adequate clothing and regular pay ahead. Suspicion dies slowly.

The attitude of the young Egyptian who helped to give the lectures was an interesting side issue. She was a girl of eighteen from one of the leading families in Egypt. It was the first close contact she had had with her compatriots in the villages. She really entered into their lives and their feelings, responded to their personalities and found much that horrified her. Her reactions made me look forward to the day, which is indeed coming, when educated Egyptian women are ready to take responsibility for social wrongs in their country, and see the evil in the immense discrepancy in living conditions as between the peasants and the wealthy.

It is on looking back some sixty or seventy years that the tremendous steps Egyptian women have advanced can be properly viewed.

Some miles north of Cairo is an old ruined palace; the sun falls through the dusty windows; in the courtyard is an ornamental lake. Dark water lies in it, heavily, and all resounds to the weird cry of disturbed curlews.

As you walk silently from room to room, the atmosphere hanging round and creeping ahead of you is redolent with the not-far-distant past: the strange, concentrated, secluded lives of the women in the harem of the Khedive Ismail, who lived here with little to employ their time but intrigue, but none the less at times wielding tremendous influence, and unused to their wishes being denied.

Descendants of their black slaves still live near and guard the place. They greet you almost silently with the beautiful natural manners of their kind. Within the memory of some British residents of Cairo there was an individual who sat outside the main Palace. From time to time the harem would summon him and order jewels as their fancy moved them. Then the Court Jeweller, for such he was, would throw himself at the feet of the Khedive and groan and moan till he extracted some money from him for this purpose. Such a thing as a bill or an order of any sort was not part of the proceedings.

The whole system for the middle and upper classes was a strange mixture of licence and restriction. Into this world, from time to time during the last fifty years, came an English or a European bride, often met and wooed by the husband in his student days abroad. In those times, and until quite recently, the entire family lived in a large house, grandparents, in-laws, widowed aunts, orphaned cousins, all under one roof. It is an amazing fact that the majority of British women who embarked on this adventure stayed the course remarkably well. Their courage in those early days must have been immense.

Stepping back a few decades brings into prominence the change in conditions and outlook of the modern Egyptian townswoman, but where the peasant woman in the Nile valley is concerned we could go on stepping backwards till we were in company with the Pharaohs before any appreciable difference could be noted. Her life goes on much the same century after century. She helps in the fields, tends the cattle, washes and makes the clothes, cooks, grinds the flour and bakes. In cheerful impassivity she bears a vast family of whom a startling number die in infancy.

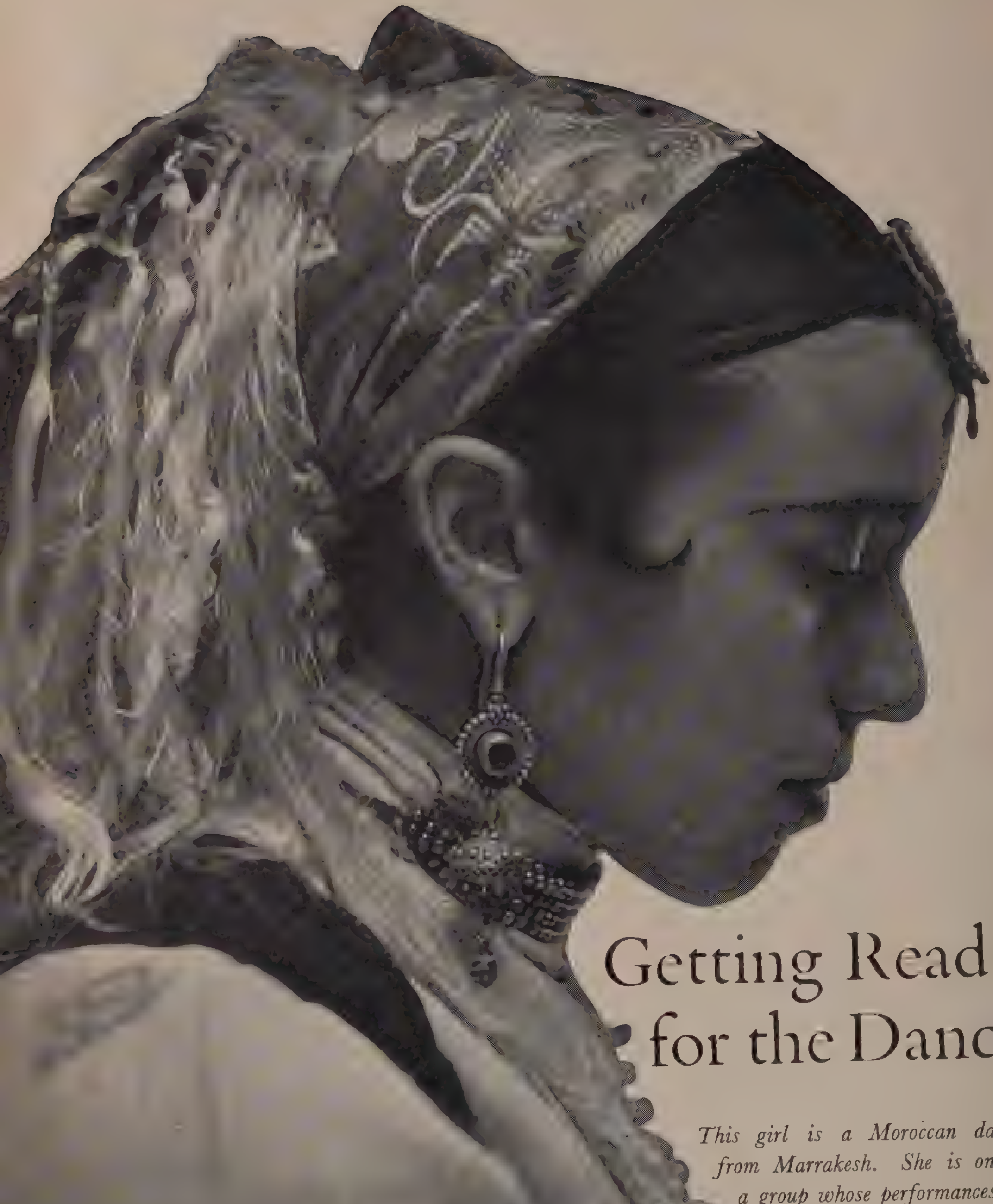
She follows customs that indeed date from the Pharaonic dynasties to protect her babies from the evil eye. She takes them to visit tombs of Moslem saints and of Christian saints too, for why leave any avenue unexplored? If they die, they die, and if they live, to God is the glory. One result is that those who live are a hardy collection guaranteed to survive most ordeals.

What changes there are appear to skim the surface, leaving the essential peasant woman unaltered. Watch the banks of the Nile any green and gold evening. Through the dark palms come the village women to fill their vessels from the river. They move beautifully and slowly, three, four, five of them will carry on their heads the graceful earthenware water-jars, such as have been carried for thousands of years. The sixth and seventh will probably have a petrol tin balanced on their heads; but Fatima with her petrol tin is just the same girl as Aziza with her jar.

Along the dusty dyke road above the level of the fields three or four women will come along, wrapped in black robes, squatting on donkeys; after a few minutes five or six more will pass, and the fact that they are huddled into an ancient Ford has changed them, in essentials, not a whit.

This is true today but it may not be true tomorrow, for look into any village school, even those far up-country, away from the capital, and you will see nearly as many little girls as little boys learning, from a bearded elder, to read, write and count.

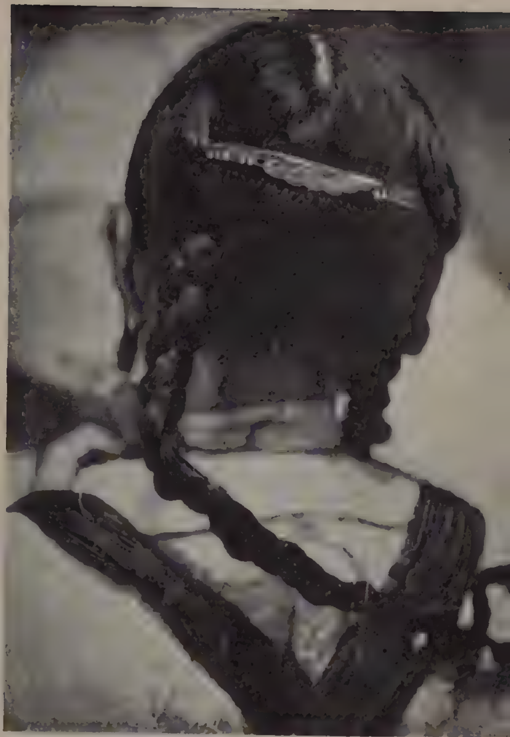
This agricultural world is still far removed from the world of the Egyptian professional and Government classes, who inhabit the town and its fringes. The enlightened townswoman will have, in time, to know and help her sister from the fields, on whose efforts and those of her family the very existence of the towns depends.



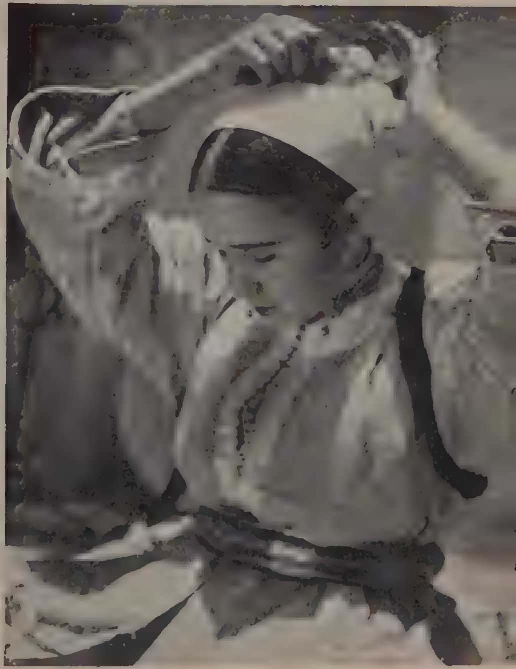
Getting Ready for the Dance

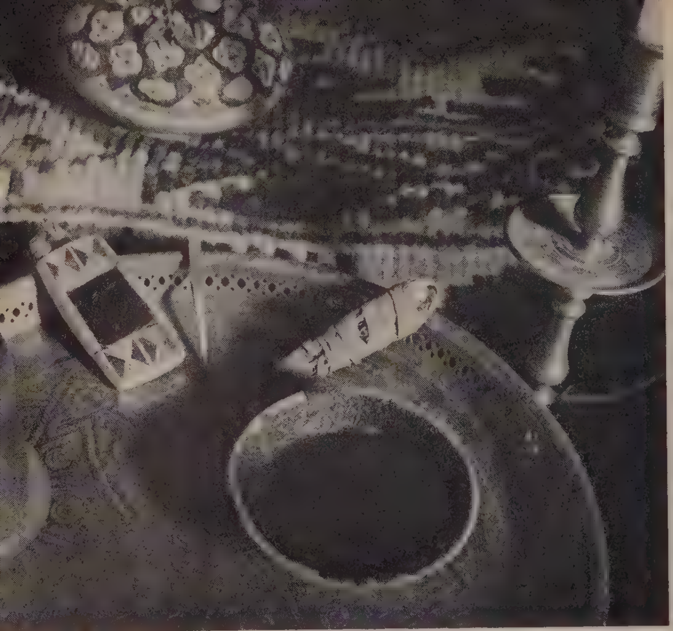
This girl is a Moroccan dancer from Marrakesh. She is one of a group whose performances are often the chief entertainment at the festivals, marriages and feasts held in the town

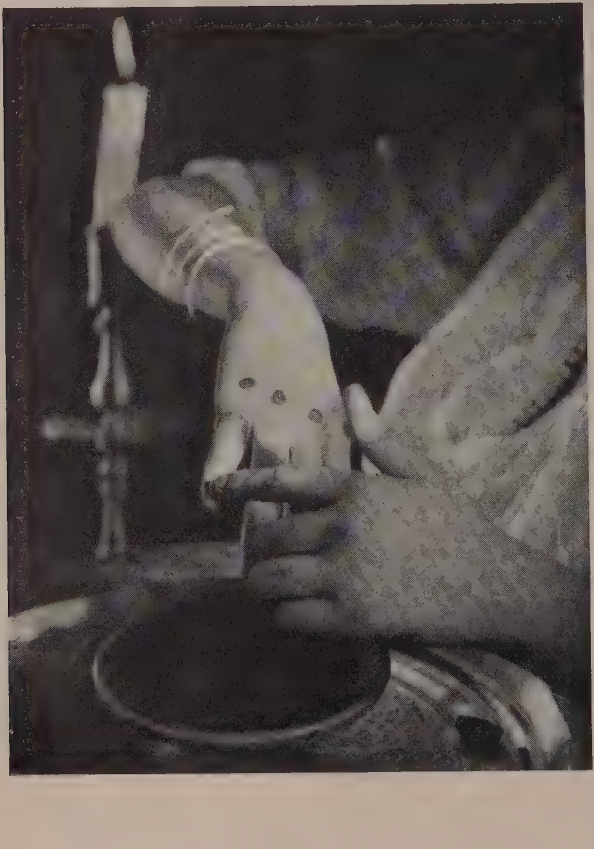
Photographs by Pierre Boucher from Ian Muir



As soon as she is dressed she sits cross-legged on the floor, her beauty-preparations arranged on a low brass table in front of her. First she parts her hair in the middle and plaits it, placing a jewelled comb at the back of her head. Next she folds the plaits and binds them with a plain cotton cloth. Her coiffure is completed by a gay silk kerchief, with long shimmering tassels that contrast with her jet-black hair







(Above) *On the large brass tray which serves the dancing girl as a dressing-table are a bowl of henna for dyeing her hands; 'souak', bark of walnut tree, to whiten her teeth; a small vanity case with a mirror and kohl powder and a wooden stick for making up her eyes. Small as the mirror is, it is all she uses to see herself in.* (Left) *She manicures and tints her hands elaborately, dips her thumb and first finger into the henna and paints a small round mark on the base and middle joint of each finger. She makes a large henna mark called a* duro *(five franc piece) on the palm of each hand.* (Opposite) *As a last touch, a richly jewelled ornament is fastened to her brow and she finishes her make-up by dipping the wooden stick into the kohl powder and applying it to her eyelids*

Clouds

by JACQUES COCHEMÉ

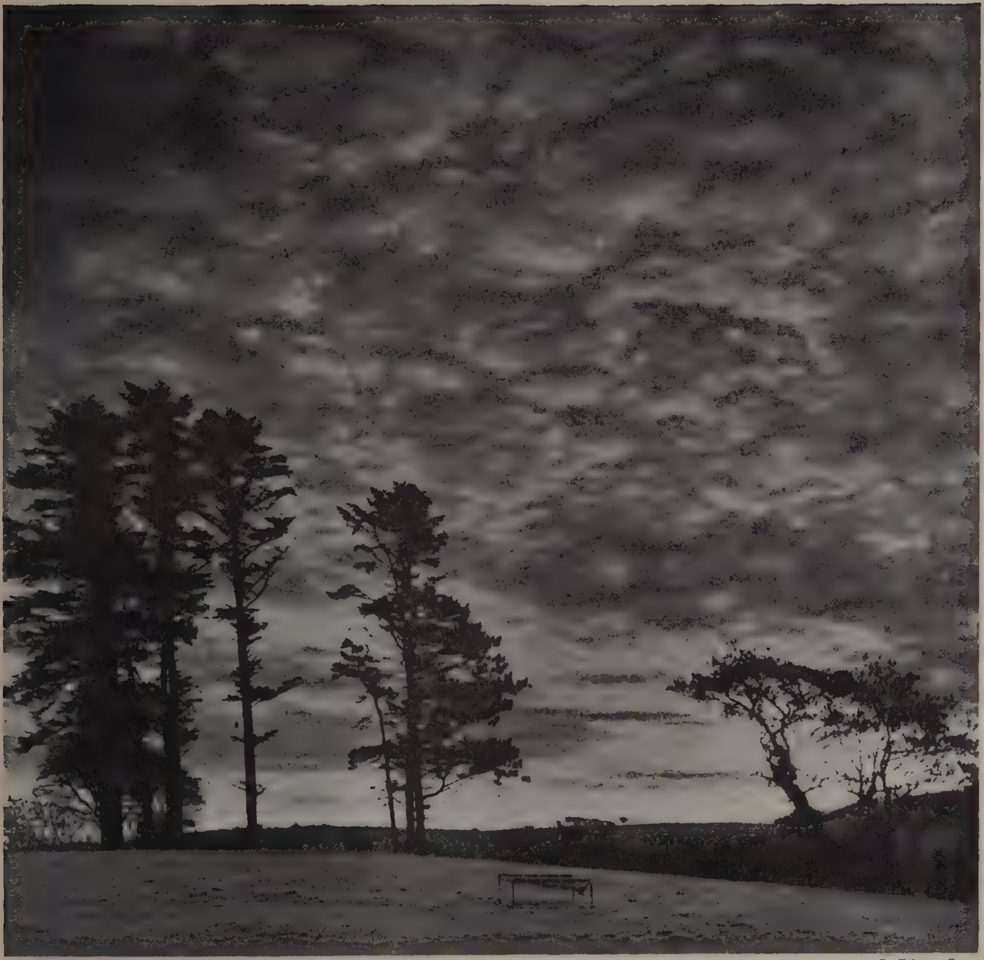
Ronimund Bissing

In the June number of the Geographical Magazine *we published an article on Waves by Mr G. H. T. Kimble which explained how they form and develop and the rules they obey. Mr Cochemé gives a similar interpretation of cumulus clouds*

Clouds are the visible effect of condensation of the water vapour contained in the atmosphere. Water is continually being absorbed into the atmosphere by evaporation from the sea, land and living things. Temperature-changes and air-movements lead to condensation of excess moisture to fine droplets of water, which in differing conditions form clouds of many shapes and sizes. Some of these clouds evaporate again, but from others the condensed moisture falls to the ground as rain, thereby maintaining the equilibrium of humidity in the atmosphere.

Clouds are classified according to height and shape. Considering shape alone one can broadly distinguish between 'layer' and 'heap' clouds, technically known as stratus and cumulus. Cumulus clouds are my subject here; to understand how they are formed familiarity with a few simple physical theories is necessary.

In ascending from the earth, the higher one rises the colder becomes the atmosphere. One can be painfully cold in the open cockpit of an aeroplane when only 6000 feet up, on a day when the thought of putting on

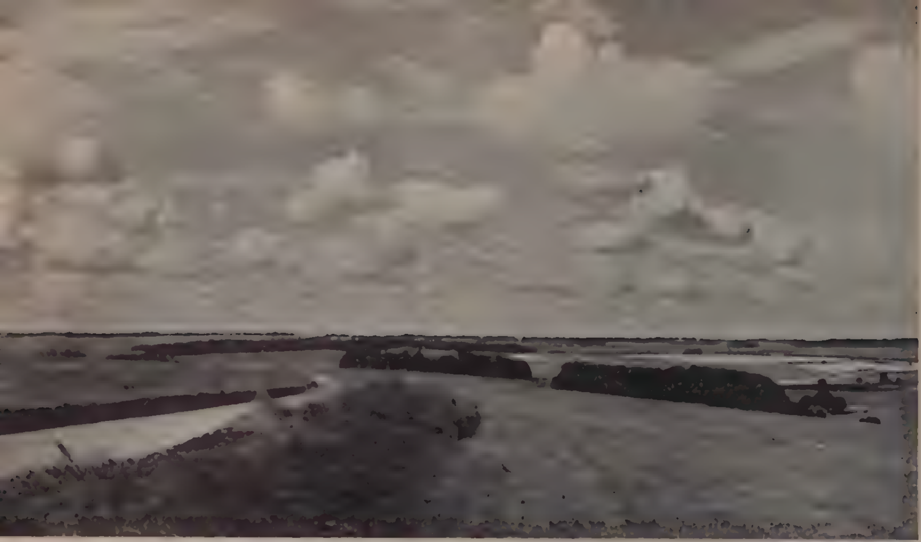


J. Dixon-Scott

Characteristic form of strato-cumulus clouds. Pure stratus is a level sheet of cloud often covering the whole sky and therefore not a good subject for photographers

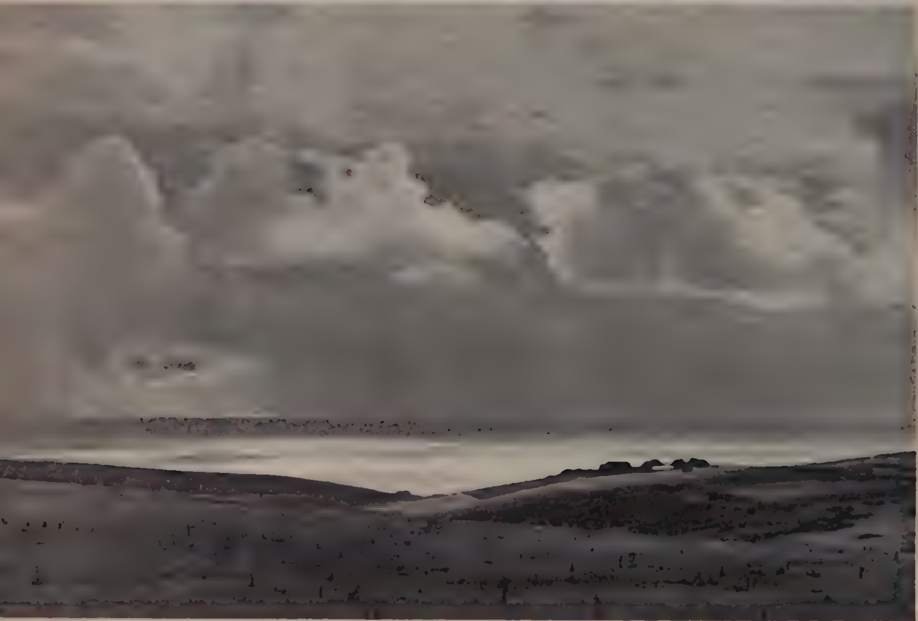
additional clothing before climbing into it at ground level is intolerable. The rate at which temperature decreases with height varies within certain limits. This temperature distribution is recorded daily in many places and forms one of the main indications of the weather forecaster.

If a mass of air is significantly warmer than the air surrounding it, it will rise because it is also relatively lighter. This movement of warm air causes chimneys to draw and smoke to ascend. Such a difference in temperature often takes place at the surface of the earth, which is warmed by sunrays and in its turn warms the lower layers of the atmosphere by contact. Soon masses of warmer air break through and begin to rise. This process is helped by the fact that the temperature of different materials is raised to different degrees by the sun. For instance, a field of wheat gets warmer than a root crop; and concrete pavement or corrugated iron roofs get very much warmer than garden soil. In that way temperature differences are set up horizontally in the air which is in contact with the surface of the earth and have a trigger action



Cumulus clouds, looking like neat little puffs of cotton wool, appear early on a summer day and soon fill half the sky—

Val Doone



— or sometimes they form beneath a canopy of higher cloud, as in the lower photograph on this page

Val Doone

(Opposite) *When this photograph was taken conditions were right for full development of the cloud*

on the ascent of warm air or thermal currents.

As a parcel of air ascends the pressure to which it is submitted decreases, since pressure diminishes with height because the amount of air overhead grows less, and consequently the parcel expands. In doing so its temperature falls. The warmer the air, the more water vapour it can hold; so if the parcel cools to such an extent that saturation point is passed, the excess water vapour condenses within it and a cloud then appears.

The rate of cooling of such a parcel of air is constant: about 5 degrees per 1000 feet below cloud and then about 3 degrees. So long as it finds itself surrounded by cooler air it will continue to rise. As soon as the temperature distribution is such that at a given height the atmosphere is as warm as the rising parcel, the parcel will slow down and soon come to rest. This may happen before it has had time to cool sufficiently to form cloud. On the other hand, the temperature distribution may be such that the

Ronimund Bissing

warm parcel of air will continue warmer than the surrounding air and therefore rise to form very tall clouds.

A cumulus cloud is a rising column of air which has had the water squeezed out of it by the cooling caused by expansion during ascent. The dimensions of the clouds depend on the supply of warmth and humidity in the air at the start, and, as already explained, on the surrounding temperature distribution at varying heights.

Let us see what happens on a good cumulus day in summer. The day starts windless with cloudless skies and, perhaps, some industrial haze in the first 1000 feet of the atmosphere. There may be a few patches of valley fog in the hollows. The stagnant, cool air prevents movements of the atmosphere from being felt at the surface, and all is still and quiet. The sun rises, very red at first through the haze at this, the coldest, time of the day. As the sun moves up a little warmth begins to be felt.

The rays of the sun do not appreciably warm the air. They go through it and leave

Ronimund Bissing

Dazzling white cumulus cloud appears very solid and gives an impression of abundance

it almost undisturbed: it is the earth, as I have explained, not the air, which is struck and in which that stirring and activity that we call warmth is caused and it is the earth that warms the air near it.

Cumulus clouds in the morning usually take the form of scattered fleecy fragments but very soon neat little cotton-wool puffs appear. They have flat bottoms showing the height at which the cooling ascending air reached saturation (*i.e.* the condensation level), and pleasantly rounded tops 1000 to 2000 feet higher, where temperatures are equalized and the air stops rising. Each cloud is the top of a strong vertical current of air. The compensating down-draughts surrounding the rising mass are warmed up by compressions: that is, the air in them becomes drier.

On some days, owing to the dryness of the air or peculiar temperature distribution, clouds grow no further. They are then often called 'fair weather' cumulus. Sometimes they come up against a stable layer of warm air and spread out to form an almost continuous sheet of cloud.

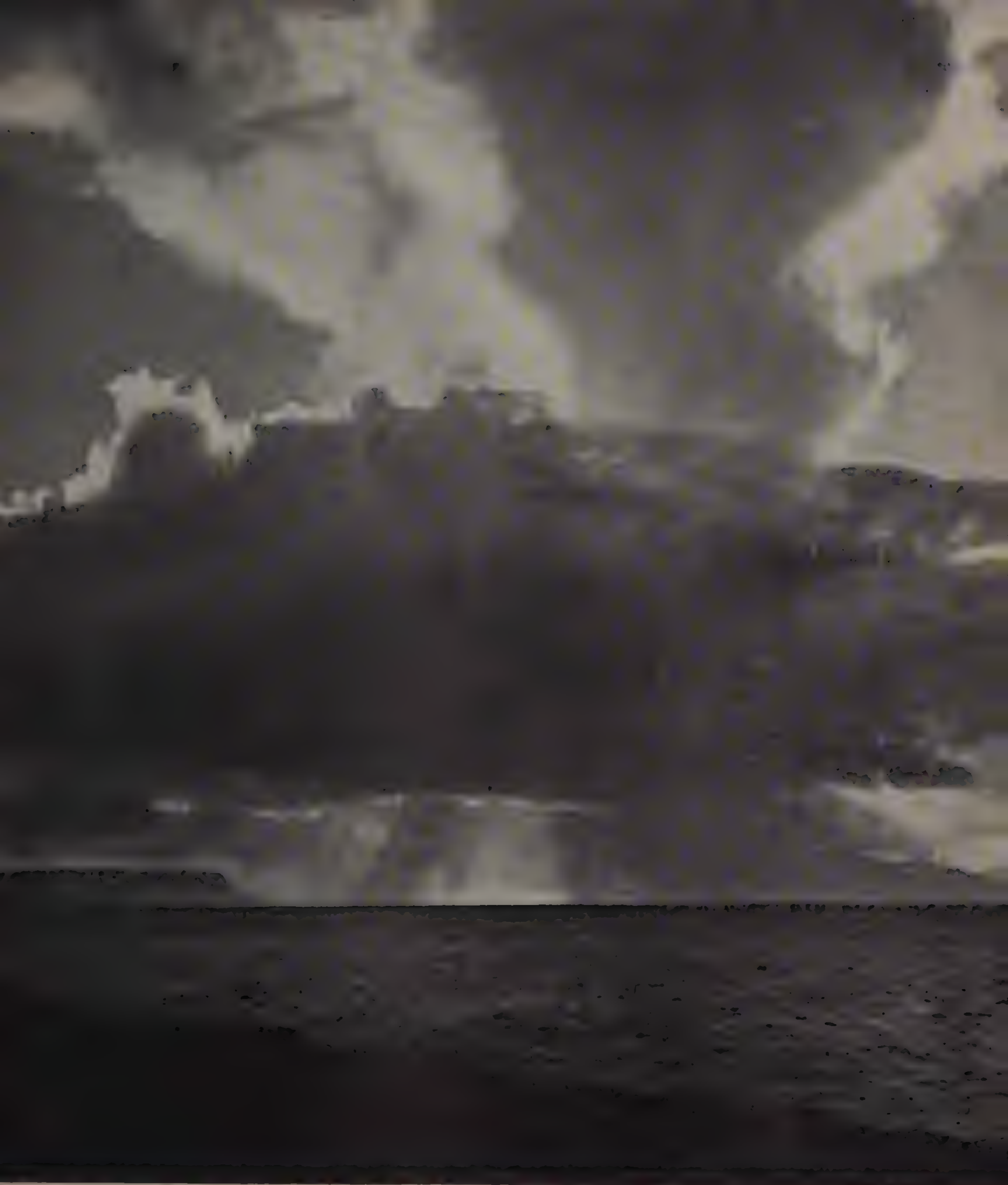
But on the summer day we are describing, conditions are right for maximum development of cumulus clouds. They grow in width and height. They are dazzling white, very solid and give an impression of abundance. At midday the haze has gone and between the clouds the sky is deep blue. That, and the fact that they are still growing, lead one to expect full-size thunder-cloud, called cumulo-nimbus. By three o'clock in the afternoon the clouds extend to a height of well over 20,000 feet, and their tops, reaching layers which prevent further vertical development, begin to spread out in characteristic anvils.

Inside the clouds the vertical currents move fast. (Light aircraft are said to have been engulfed in such clouds, carried upwards out of control, and finally belched out at a height three or four times above the machines' 'ceiling'.) Violent condensation leads to the formation of large drops of rain. Some of these evaporate on the way down, giving low ragged clouds underneath the main body, which, from below, appears ominously black owing to its great thickness and the contrasting whiteness of its flanks. The rest fall in large, brutal drops.

Sometimes the vertical currents are so strong that the drops are carried up inside the cloud to well below freezing point. As the current blows with gusts and lulls, this process may be repeated several times, producing hailstones with concentric layers of ice of a size proportional to the number of journeys. Hailstones as big as tennis balls have been known to fall. One can imagine how strong a current of air is needed to throw up, like celluloid balls on the jet of a shooting gallery, stones which in exceptional circumstances weigh as much as 2 lb. each.

Meanwhile, the thunder-cloud has been generating electricity—though exactly how this is done nobody quite knows. What is known is that the mechanical process going on inside the cloud causes a piling-up of negative electrical charges in one part and of positive charges in another. The rush of current that eventually takes place along the discharge channel between the two 'fields' generates light, heat and sound. As most people know, the lightning is seen before the thunder is heard because light travels infinitely faster than sound, which goes at the very conservative rate of 1100 feet per second. When a long rumbling is heard it means that the flash of lightning was going away from the observer and the noise, produced simultaneously, took several seconds to travel the length of the flash. Sheet lightning is merely the reflection in a cloud of a lightning discharge which cannot be directly seen.

As the sun, cause of all this, moves down towards the horizon, its oblique rays no longer give enough heat to the earth to keep convection going on any scale. The cloud



Paul Popper

The tops of these cumulus clouds have reached layers of air which prevent further vertical development; the clouds therefore spread out in "anvils"

Paul Popper

Thunder clouds generate electricity, visible to the eye in the form of forked lightning. Sheet lightning is merely the reflection in a cloud of a lightning discharge which cannot be directly seen

particles, no longer supported by a strong updraught, begin to sink and so to warm up and evaporate. The winds, which have been variable and gusty beneath the shower clouds owing to the effect of the large unsteady inflow of cooler air, calm down. Over the land a calm, starry night with a lingering faint smell of rain-flogged earth is almost certain. But not over the sea, where some of the thunder-clouds may have drifted during the course of the day. For the sea does not cool at night as the land does. On a perfectly clear evening over the coast it is often possible to see a line of towering cumulus out to sea—a sight that is anything but welcome to outgoing bomber crews, who know that they must expect excessive turbulence, electric interference, lightning and 'icing-up'. It is then that in the dark luck guides some navigators through the clear gaps and others through the inferno of a big cumulonimbus.

In the tropics cumulus clouds are the rule, and the storm sequence I have described is often the daily routine. In some places thunder is heard on 250 days of the year and the clouds extend to a height of 40,000 feet. Humidity is high and the cloud base low. Little preliminary heating of the air is required, and in places like the Congo basin the regularity and strength of the vertical movements is such that they could be harnessed for the generation of electric power.

Tundra to Tropic

Coastal Command Sweeps the Seas

by Flying Officer W. M. FRASER

We had been flying for an hour or more just above a belt of low cloud when, quite suddenly it seemed, the sky cleared to reveal the swell of the Atlantic, dull and ominous even on this sunny day. We were no more than 800 feet up. The flecks of foam and the "lines on the sea" that betrayed the wind stood out clearly against the lustreless green and on the black patches where the cloud shadows hung. Over on the port side, three miles or more away, was a heterogeneous collection of ships, mail liners and big cargo vessels, corvettes and cruisers, tankers, trawlers, tramps—a Western Ocean convoy. In long lines they were stretched out over the water; liners, once brilliant with bright paintwork, with names famous wherever ships are spoken of, and 'tramps' with names unknown even at Lloyd's, rolling, wet, down-at-heel little ships, now all a uniform drab, all together, side by side—for there is poor shrift for class distinctions these days of peril. Ahead and around them fussed the escort vessels, and from over them a Catalina flying-boat detached itself to come and have a look at us. A flash on the Aldis lamp to us, a flash from us back to him, and we passed on our way. He went back to sit above the convoy again, the U-boat spotter, the eyes of the fleet below, a fellow patrolman from Coastal Command.

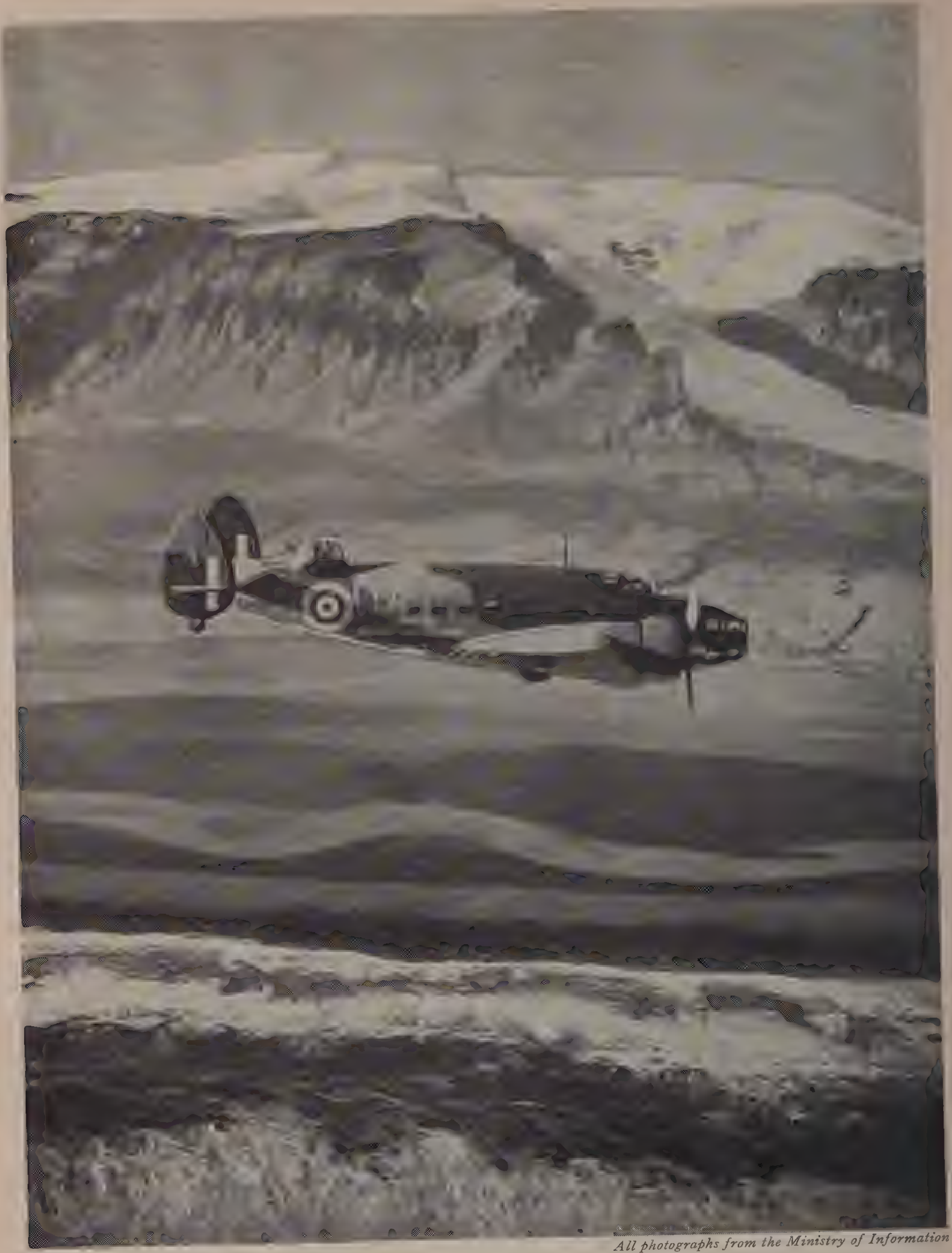
For two hours more we continued north and west over an empty sea. On this flight across the great circle route three years earlier we should have seen half a hundred ships showing flags of half as many nations. Now, the convoy apart, there was nothing; not even a whale came up to blow. At last a speck of land appeared ahead and rapidly grew larger. Soon we saw it was an island, and behind, some five or six miles further off, we could see surf hurling itself on the precipitous lava shelf which forms the southern coastline of Iceland.

The island was Westmann, the rock that lies south-west of Reykjavik, and the landfall our navigator had aimed for. We circled it, and this first scrutiny of the country which was to be our home for months to come was not inspiring. On two sides the island rose steeply to ridges of rock which appeared to be several hundred feet high and which together made a rough 'V' formation. Snuggling in this one sheltered spot was the township of Westmannayar, the fourth town in Iceland. Green fields lay behind and rose sharply toward the rocky rim; in front was a tiny landlocked harbour which seemed filled with small boats and fishing vessels. The white-walled houses and painted tin roofs looked neat and clean, gayer than stone-built Stornoway (across which we had flown earlier), which seemed to me, by position and size, its Scottish counterpart. But whereas Stornoway was a flaw in a splash of royal colouring, here was no more than an outpost in a bleak, bleak sea.

Worse, however, was to come.

Within a few minutes we were skirting the shore of the mainland, gazing on a scene that could be appreciated in its full grimness only from an aeroplane. From the peaceful English countryside we had gone on to Scotland and the Hebrides, filled with admiration at the ruggedness and colour, the wild grandeur of mountain and sea loch, of heather and pine and stream. Wild coasts were no new sight for this crew. The Shetlands, Faroes, Norway, even the desolation of that part of Scandinavia that lies far beyond the Arctic circle, had hardened them. Yet this first view of Iceland made everyone gasp.

Below us was a coastal plain of black lava rising straight out of the sea against which great waves hurled themselves, broke into torrents of spray and fell back exhausted and defeated. In front we could see the wreck of a small coasting steamer broken in half, the stern almost submerged, the bow section lying on the lava shelf twenty feet above and more than fifty from the water's edge. It told us all we needed to know of the violence of winter storms. Two or three miles away were the upperworks, funnel and masts of an English cargo vessel, and further on was another wreck, then another and another. On the lava not a blade of grass grew, and its face was broken only by innumerable streams and rivers, red and weary, carrying the melting ice from the glaciers to the sea. Behind were the ranges, folded back, one behind the other,



All photographs from the Ministry of Information

In flight against a background of snowcapped mountains; an American Lockheed Hudson in service with the R.A.F. out on patrol in Iceland higher and higher through the icefields that cover the interior. Iceland is roughly the size of Ireland, but only along the fjords of the west and north coasts, with the exception of Seydesfjordur in the east, can the two hundred thousand inhabitants scratch a living; a precarious living it is too. The interior, mountainous, icebound, rising many thousand feet, is a place in which neither man nor beast can live.

Setting out from Britain's coast on patrol. The crew of this Sunderland flying-boat are members of the Royal Australian Air Force Squadron operating with Coastal Command

As we flew along we saw these icefields, formed in the Ice Age countless centuries ago and now gradually melting. We shuddered at the sight of the great Vatna Jökull and the glaciers that came down to meet the plain. Not a patch of soil clung to the towering rocks; not a fish lived in these red freezing waters; not a bird disputed the air. All was desolation, save where little white light-towers stood, and a tent or two betrayed the presence of the British Army and Navy coast-watchers, the men with the most soul-destroying job in all this war.

Gradually the scene began to improve. Occasionally the lava gave way to little corners of tundra, then more tundra and finally a pen with grass, walled off, and what looked like a hump in the ground. It was a house covered with living turf for warmth, betrayed only by its chimney and the children who came out to watch us pass. More and more tundra, with now and again a field, began to relieve the blackness of the lava; presently came a pathway, then a road and a village—four or five houses along a little arm of the sea and a tiny tin church with a square tin tower. After that fields were more numerous, tiny patches, seldom more than fifty yards square, walled in by turf dykes from the tundra around. At first we could see only one road, then came two, followed by more villages, tiny and far apart, but never did this land ever look like anything we had known. Behind towered the dark mountains, lost in mist or ice-covered; never was there a tree or bush or flower, bar a pale poppy or two; except where man had reclaimed a dyked-off patch for cultivating, there was nothing but lava or clumps of Arctic grass, and that right into Reykjavik itself.

At last we rounded Reykjnes, the one strip of pasture I saw all the time I was there, and put down at base, the latest Sunderland to report itself available for the patrolling of the convoy lanes from Coastal Command's furthest base in the north-west. That was eighteen months ago. The shore base was not yet ready, so we lived in a depot ship, a converted British India liner, a self-contained, mobile station that had been moved up to carry on the Battle of the Atlantic. The story of these depot ships has yet to be written, and great reading it will make.

Back to Coastal Command Headquarters flashed the signal notifying our arrival. It did not, one may presume, cause any particular flutter in the Air Staff. At headquarters they are accustomed to signals from far places as they trace the Royal Air Force's part in the war against U-boat and air raider, set the watch along coast lines from Greenland to Norway and on down to Spain, and order flights to the Mediterranean and West Africa.

'Coastal', as it is called, has many jobs to do, most of them in cooperation with the Royal Navy. Newspapers and radio bulletins tell daily of Coastal Command raids on Nazi-occupied ports, of long-range fighters driving enemy aircraft from our shipping lanes. But these tasks, vital as they may be, are secondary to Coastal's main job of work, with the long-range planes, above all the flying-boat squadrons, that make their way from Arctic to Equator and back again.

The ordinary day's work of a flying-boat tots up in miles to something like the width of the Western Ocean between Ireland and Newfoundland; a routine job is spending twelve, fourteen or sixteen hours in the air guarding a convoy or patrolling a U-boat area; the harvest thus grimly reaped has been large. Reconnaissance is the other major employment, though of this one may not say over-much.

Some of it is thrilling indeed. I remember Fitzerle, a flying officer in my own squadron, telling how, while over the Denmark Strait between Greenland and Iceland, he saw the *Hood* blow up and sink; a day or two later the *Bismarck* was lost and found again, and so the greatest sea-air hunt in history was brought to a close by this brilliant work of a flying-boat crew far out in the Atlantic where the weather seems always bad. Then there was the time when a Sunderland pilot came out of the clouds near the Norwegian coast and found the *Scharnhörst* right below him. On the way back to the Shetlands the pilot crawled into the wings of his Sunderland to plug as many as he could of the holes in the petrol tanks which had been caused by the *Scharnhörst*'s flak. Again there was a fine reconnaissance made on Christmas Day 1940 from the Shetlands 650 miles north beyond the Arctic Circle to Narvik and Trömso, timed for that single hour of real daylight which those bleak spots enjoy during the middle of the polar winter.

Five thousand miles southwards the same sort of job was being done by boats flying out from West Africa. There, instead of intense cold, extremes of heat had to be endured, yet it was the same job, the same Sunderlands, the same restless Atlantic. There is little difference, heat and glare apart, from the rescuing of the crew of the *Kensington Court*, torpedoed south-west of Land's End, when two Sunderlands put down on the ocean and flew off the survivors, to the picking-up of fifty men from a lifeboat two hundred miles west of Sierra Leone. There are only geographical differences between the now almost routine flights out to Malta and Egypt on the one hand and northwards to Russia on the other; long, weary hops with diplomatic mail and important passengers—for flying, even in war-time, is not only the fastest but also the safest form of travel.

These are the journeys to the out places. Nearer home it is just the same. West of Ireland and over the stormy Biscay region of the hazardous 'Bay Patrols' the boats go out, and mostly come back again. Here is the great U-boat graveyard; here, only the other day, an Australian boat was turned right over, nearly made to loop the loop, by a gale.

What manner of men, one may ask, are those, who stride over half the globe at a moment's notice? Are they different from the daring, boisterous lads of Bomber Command or the mercurial, temperamental Fighter pilots? The answer, I think, should be a rather emphatic affirmative. They are quieter, more philosophical than those of the other major operational Commands; they have taken on much of the manner of the sea and mix easily with the Naval and Merchantmen with whom they so closely cooperate. They have the sailor's puckered eyes as a result of sea-glare, and his bright, quiet smile. Like the sailor, too, Coastal pilots have to keep close watch on weather, for 'Met', more than enemy action, demands vigilance and moulds their character. Finally, they too navigate across oceans and master the ways of their waters.

Take the experiences of one as an example—Jimmy Ennis, still recovering from his latest adventure. Two years ago he was stationed at the Shetlands as second pilot on a boat engaged in U-boat hunting and scouting along the coast of Norway. One night, homeward bound, a couple of hundred miles from base they ran into a storm, a gale raging from 90 to 120 m.p.h., with visibility reduced to zero. Navigation became impossible; the gale carried them far off their course and they had to confess themselves lost somewhere between Scotland and the Faroes. At last petrol became exhausted and Gibbs, the captain, did the almost impossible by landing the huge Sunderland safely on the ocean in the teeth of the gale. For eight hours they managed to keep the aircraft afloat; it broke up and sank just as H.M.A.S. *Australia* ploughed to them through the storm; eight out of the crew of twelve, among them Jimmy Ennis, were rescued.

After that Ennis was sent ferrying Catalinas from America to England " for a rest", rejoining his squadron as it was being sent to Gibraltar in mid-summer last year. Autumn found them operating from a new base in West Africa with Ennis now captain of his own aircraft, himself doing just what he had seen Gibbs doing a year earlier. This time he was caught in a tropical tornado after doing a twelve-hour patrol; for three hours more he sought a break to get through; but

At a R.A.F. Station in the West Africa Command maintenance work continues in spite of bad weather. This crew is preparing a Sunderland for its next flight. (Right) *Out on patrol over the Atlantic during a full gale, a Hudson sighted and attacked a U-boat, which was forced to surrender. Until the arrival of the Navy, a Catalina kept guard by circling over it continuously.* (Below) *American Lockheed Hudsons are extensively used for reconnaissance work. Here is one approaching Dunkirk, while billowing clouds of acrid smoke from burning oil tanks form a dramatic background.*

Under the protective shadow of the Rock of Gibraltar: a giant Sunderland at rest after a search for lurking U-boats

fuel ran out and Ennis put down for a second time in the sea just off shore. As the tornado passed he called up base. He had hoisted the awning on an improvised mast and had signalled he was making one knot on a southerly course, his estimated time of arrival in base being some 72 hours hence. George Stead took off immediately for Ennis's position, located him, put down and, getting alongside, refuelled one Sunderland from the other. Ennis took off with his tired crew for base; Stead took off to search for the crew of a Hudson which had been lost in the same tornado, and who were afloat in rubber dinghies; they too were saved, among them a pilot named Henry who was a hero of the last of Ennis's adventures.

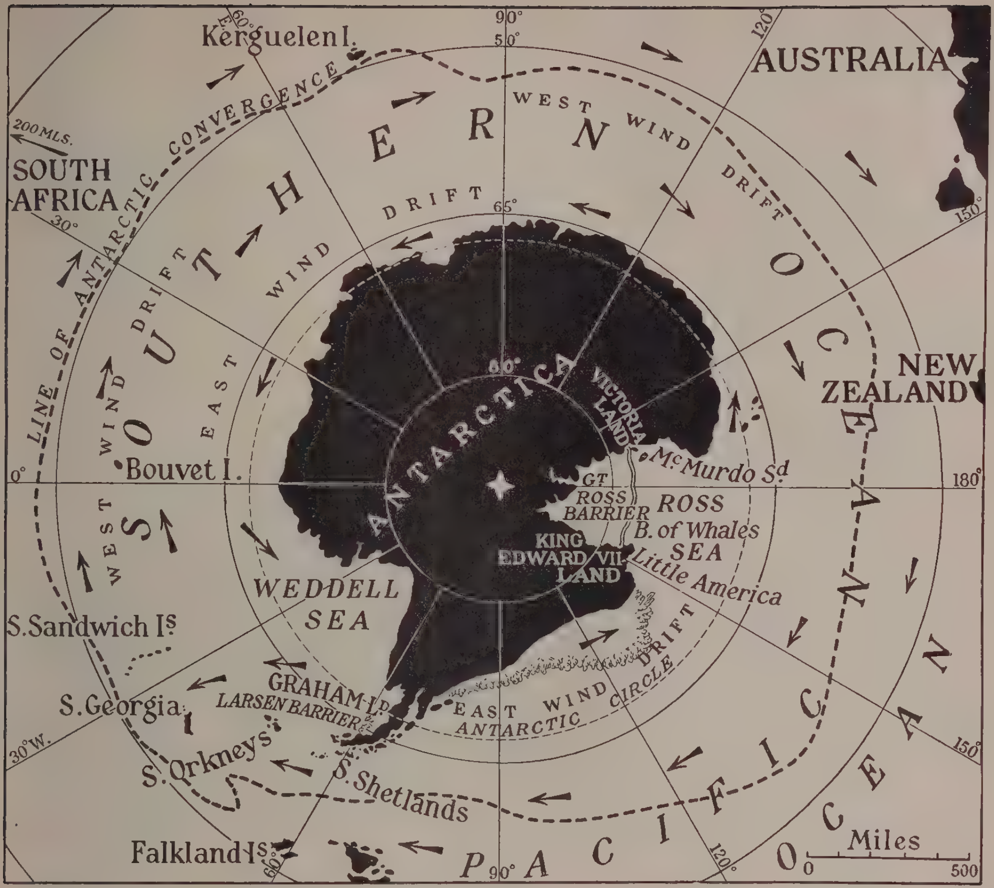
Months went by and then an S.O.S. from a British civil aircraft warned control that this four-engined machine was about to force-land on the coast several hundred miles to the north. Ennis was sent off to locate it, did so and "lobbed into the drink" (as he said) beyond the surf. The second pilot and a rigger launched rubber dinghies, rowed on to the shore, took the four members of the crashed plane's crew back to the Sunderland, and all came safely home.

The latest adventure, like the first, has, however, been tragic. The aircraft was returning from a convoy patrol when sudden engine failure forced it down before there was even time to send out an S.O.S. As the flying-boat hit the water it broke its back and the crew were ordered to abandon it at once. Ten of the crew of eleven scrambled out. The navigator led the way in finding and inflating one dinghy, and they got only four 'Mae Wests' before the Sunderland filled, soon to sink and blow up as the depth charges reached their detonation levels. For seventy hours the crew remained in the water, until a destroyer, shepherded to the spot by another flying-boat, picked the nine who still lived out of the swell. They had been seen on the second day by Henry from a Hudson and some water and more dinghies had been dropped. Darkness came down before a Sunderland could be brought to the spot, and for a second night the men in the water heard the searchers overhead and saw the parachute flares being let off around them. It was Henry again next morning who first spotted them. Ennis had damaged his back in the crash and arrived home in a plaster cast that was covered with drawings and signatures; on the back were the names of the survivors of his crew with the words "Jolly good show, skipper".

Such are the men, and such the work—an ordeal of vast distances, changing weather and a dark ocean, and orders to face it that come with no warning. My own translation from Iceland to Africa is typical.

Last summer we were visited by the Commander-in-Chief, Air Chief Marshal Sir Philip Joubert. We all put on our best blues, the ones with slightly less oil on them than the others; the crews of the flying-boats were lined up along the main planes (some of them were almost frozen on) and cheered as he passed in an aircraft tender. At night there was a party in the mess; next day we were told we were to leave immediately and by midnight all the boats had taken off bar one, not only with their crews but with a considerable proportion of the ground staff, fitters, riggers, etc., as well. Thus without any fuss we passed from tundra to tropics with its alarming differences, its prickly heat, its wonderful birds, its far-too-friendly natives and its jiggers under the toe-nails.

The experience produced one conviction in all ranks—that it is more bearable to be uncomfortably warm than uncomfortably cold, but that it is a toss-up either way when you're in Coastal Command.



Stanford, London

Antarctica

I. The Last Continent

by F. D. OMMANNEY

Mr Ommanney, author of South Latitude, *was on the scientific staff of the 'Discovery' Committee from 1928 until the outbreak of war. In this period he made three two-year trips to the Antarctic, serving at whaling stations in South Georgia and Durban, circumnavigating the Antarctic Continent and going to the relief of Lincoln Ellsworth at Little America. He is now serving with H.M. Forces*

MANY people imagine that the North and South Polar regions, Arctic and Antarctic, are alike in character and only differ in that they are separated from one another by the diameter of the earth. The North Pole, they think, is the point on the earth's surface where you look south whichever way you turn, and the South Pole is the place where you look north: that the North Magnetic Pole is the point, some degrees west of the True Pole, where a freely suspended magnetic needle hangs upright with its north-seeking end downwards while at the South Magnetic Pole a freely suspended magnetic needle hangs vertically with its south-seeking end downwards. And there, they think, the difference ends. For are not both regions with six months of summer daylight and six months of winter night experienced turn and turn about? Both regions of intense cold and utter desolation, supporting no life and useless to mankind?

This view of the two opposite ends of the earth is wrong. A glance at an atlas will show that the Arctic region is an enclosed sea bounded by the land masses of northern Europe, Asia and America, while the Antarctic is a vast island continent cut off from the southern tips of all the great land masses by hundreds of miles of ocean.

The North Pole, then, is situated in the middle of a frozen sea and the South Pole in the middle of a frozen continent.

The odd thing is that if some giant hand (say, that of a celestial pastrycook wielding a stupendous knife) were to cut off the continent of Antarctica, like the top of a cake, at sea level and turn it upside-down at the opposite pole, it would almost exactly fit into the depression of the Arctic Ocean.

This fundamental difference between the north and the south Polar Regions has imposed differences of character upon them. The Arctic Region has, on the whole, an oceanic climate while the Antarctic has a continental climate, subject over much wider areas and for longer stretches of time to greater extremes of cold. Thus, for example, many of the northern lands that border the Arctic Ocean as far as 80° north, bleak and barren though they are, have a short and quite warm summer. Then, for a few months, the bare mountain slopes become starred with tiny flowers. But in 80° south, in the Antarctic, there is nothing but eternal ice and snow all the year round, and in winter icebergs and pack-ice drift into latitudes no farther south than Edinburgh is north.

Furthermore the lands that border the Arctic Ocean are joined to those which, since the earliest geological times, have been the home of all the species of animals we know, and have been joined to them throughout geological history. Here birds, reptiles, mammals and finally mankind himself evolved. In the desperate struggle for existence many of these species were driven into the barren lands of the north and became specially adapted to life there. Hence the Arctic fox and hare, which change their coats from grey to white in winter, the Polar bear and the walrus. And of the human race there is the Mongol outcast, the Eskimo, living his own strange specialized life in a country where mere existence is a struggle, a perpetual war, not between man and man, but between man and the elements.

But the Antarctic has always been cut off from the primitive sources of evolution which gave birth to the mammals, including mankind. No mammals have ever made a home there except whales and seals, which are specially adapted to life in cold seas. Mankind never attained a footing there until in recent years science enabled him to do so. Even now his foothold is precarious and there are no native human inhabitants of Antarctica and no indigenous mammals other than whales and seals. Only the birds have crossed the intervening gulfs of stormy ocean, and they, though they cover all the barren coasts in countless millions, belong to comparatively few species.

That may be said of all the fauna of the South Polar regions. As you go south the number of different species, both of birds and of marine life, decreases but the number of individuals increases. It is as though conditions were extremely favourable for the few hardy creatures that have become acclimatized to them and can now live there free, comparatively, from competition and from enemies.

The Antarctic, then, is a unique island continent utterly cut off from all contact with the rest of the world by hundreds of miles of stormy seas. This great encircling sea is known as the Southern Ocean. Unhindered by land masses and aided by the rotation of the earth, a procession of regions of low pressure, of depressions, passes endlessly round and round the earth over the Southern Ocean. The wind blows round each in a clockwise direction.

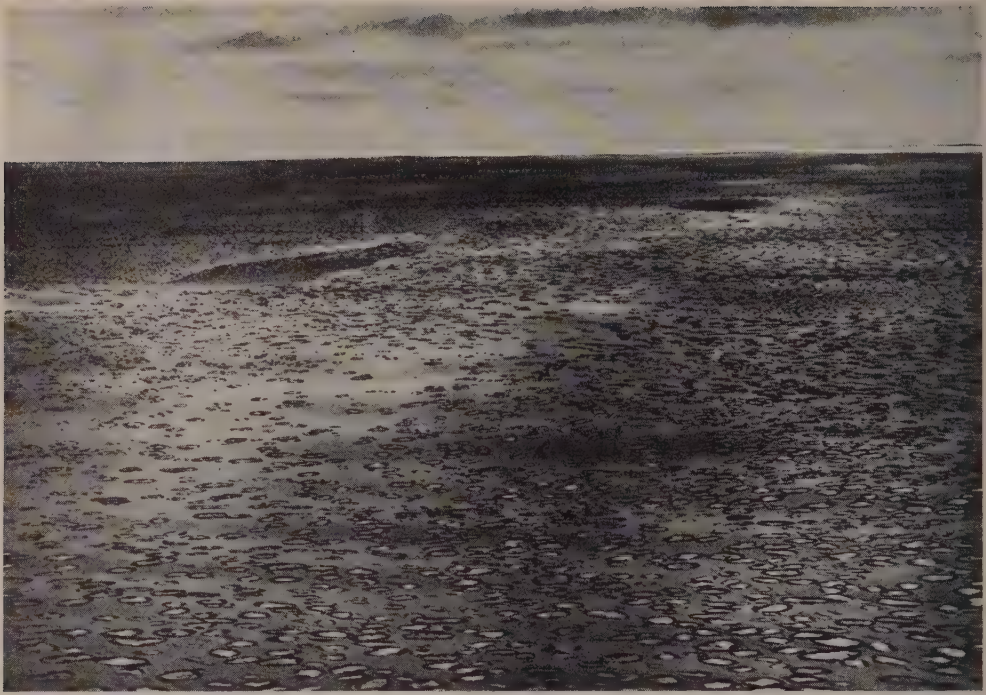
This is the reverse of what happens in the northern hemisphere, where the winds blow anti-clockwise round regions of low pressure. The result is that north of about 60° south latitude the wind blows perpetually from the west. Roughly south of this line is a region of variable winds, and farther south again, in about latitude 65°, the southern component of the successive clockwise rotations produces winds blowing mainly from the east. This great westerly wind, again aided by the earth's rotation, brings about in the Southern Ocean an eastbound drift known as the West Wind Drift. It slowly encircles the globe across the southern hemisphere north of about latitude of 60° south. Thus wrecks from the Atlantic drift into the Indian Ocean, and baulks of timber stranded on South

All photographs by courtesy of the Discovery Committee, from Central Press

Antarctic Landscape: the Peltier Channel, which separates two small islands off the west coast of North Graham Land. The waves on the left were caused by ice breaking away from a glacier

American coasts have been identified as coming from New Zealand. But farther south, below latitude 66°, the westbound southern components of the depressions, the prevailing easterly winds, aided again by the friction effect against the coast of the continent, produce a smaller but nevertheless pronounced drift towards the west known as the East Wind Drift.

As you proceed southwards through the Atlantic, Pacific or Indian Oceans you do not leave the sun and warmth behind you gradually, slowly exchanging them for grey skies and stormy seas. You run suddenly, in the course of a single day, into the Antarctic. Cold seas and lowering skies are in a moment about you, as though a door had been shut upon the sun. This is because there is a well-defined boundary line, known as the Antarctic Convergence, between the cold water, chilled and diluted by melting ice, which is moving east and north from the Antarctic, and the warmer more salty water of the ocean farther north. The northern water, although warmer, is more salty and therefore denser than the water from the Antarctic and on that account sinks beneath it abruptly along this well-marked boundary line. The Antarctic Convergence is an invisible boundary between two different sorts of water. Only specially constructed thermometers and chemical analysis of the sea water can detect it; but it is, nevertheless, a line of demarcation for the teeming minute life of the sea as pronounced as are the Himalayas or the Sahara desert for the



Antarctic seas freeze during the winter and when a swell breaks up the thin frozen film the ice forms into little disks like pancakes, hence the name 'pancake ice'. It makes the sea look like an enormous lily-pond

creatures that live on either side of them. The population on one side of the line is quite different from that on the other, and the sharper and more sudden the drop in temperature across the line from north to south the greater the change in the population of the sea. This is of the utmost importance to the birds, fish and whales of the Antarctic which make the minute living things of the sea their sole diet.

The enormous island continent of Antarctica, washed by these chill seas, is about the size of Australia and Europe put together. Nothing lives on it save the birds and seals that haunt its shores. It is covered by perpetual snow and ice. Towards the west, south of South America, the continent rises to a high mountain chain with peaks up to some 16,000 feet in height. This projects in the shape of a long finger towards the tip of South America, forming the peninsula of Graham Land. Here the continent drops abruptly from great heights to the sea and here is some of the grandest scenery in the Antarctic, a moon landscape, vast black crags draped with white ice-fields standing up chaotically from the glittering pack ice and the blue sea.

This range of mountains, with its ragged finger of Graham Land, is a continuation of the Andes mountains of South America. It is connected with them under the sea by a long arc-shaped ridge which juts above the surface here and there to form strings of mountainous islands, the South Shetlands, the South Orkneys, the South Sandwich Islands and South Georgia. Some of the South Sandwich Islands are still active volcanoes, and at one place in the South Shetlands, Deception Harbour, which is the crater of a sunk volcano, the ice-covered water is hot and steaming where it laps against the black mud of the foreshore. Immediately to the east of the South Sandwich Islands is a trough in the floor of the ocean and some of the deepest water in the world, going down to 3500 fathoms, nearly four miles.

The western mountain chain extends across

After weeks of rubbing and jostling the pancakes form compact floes, more or less circular and many feet thick. This is pack ice—mile after mile of ice-floes covering the sea like a great skirt all round the coast

the continent to Victoria Land, south of Australia, on the other side. It forms a sort of backbone to the giant island. The land has an average height of 2000 to 4000 feet and slopes gently away from its backbone east and west, presenting long gentle ice-covered slopes, broken only by occasional precipitous crags to the Indian, Pacific and Atlantic Oceans. In the centre is the Pole itself, on a plateau about 9800 feet above sea level.

The continent is shaped almost like a figure of eight. The coastline has two great bights in it, one south of the Atlantic Ocean, called the Weddell Sea, and a somewhat smaller one south of New Zealand called the Ross Sea. To the west the Weddell Sea has the long tongue of Graham Land with its mountain chain. The Ross Sea is bounded on the west by the other end of the mountain chain which is called Victoria Land. Along the eastern shores of these two great bights flows the westward current I have already mentioned, the East Wind Drift, washing along the coast of the continent. In the Weddell Sea it comes up against the wall of the Graham Land peninsula and is turned by it towards the north-east. It flows out north-eastward into the South Atlantic. Here by its cold stream it pushes the boundary line of the Antarctic Convergence far to the northward, towards the coast of South Africa. Thus the Weddell Sea forms a great, slowly rotating whirlpool. It is one of the most dangerous seas in the world, a graveyard of ships, for the pack ice formed in it piles up against the coast of Graham Land and gets stuck there in a compact mass hundreds of square miles in area. Only its outermost edges break away in the summer and float out into the South Atlantic. Vast tracts of it remain there, the ice-floes heaped and piled on top of one another, all the year round.

It was here that Shackleton's *Endurance* perished, overridden by the pack ice and crushed by a pressure of thousands of tons. Before her Bruce's *Scotia* and Filchner's *Deutschland* became trapped in the grinding ice of the Weddell Sea, but luckily they were far enough to the eastward to escape the fate of the *Endurance* and, after drifting in the ice for a whole winter, managed to break free. But Nordenskjöld's *Antarctic* perished here also, and the *Discovery II* only just escaped, badly damaged, about ten years ago.

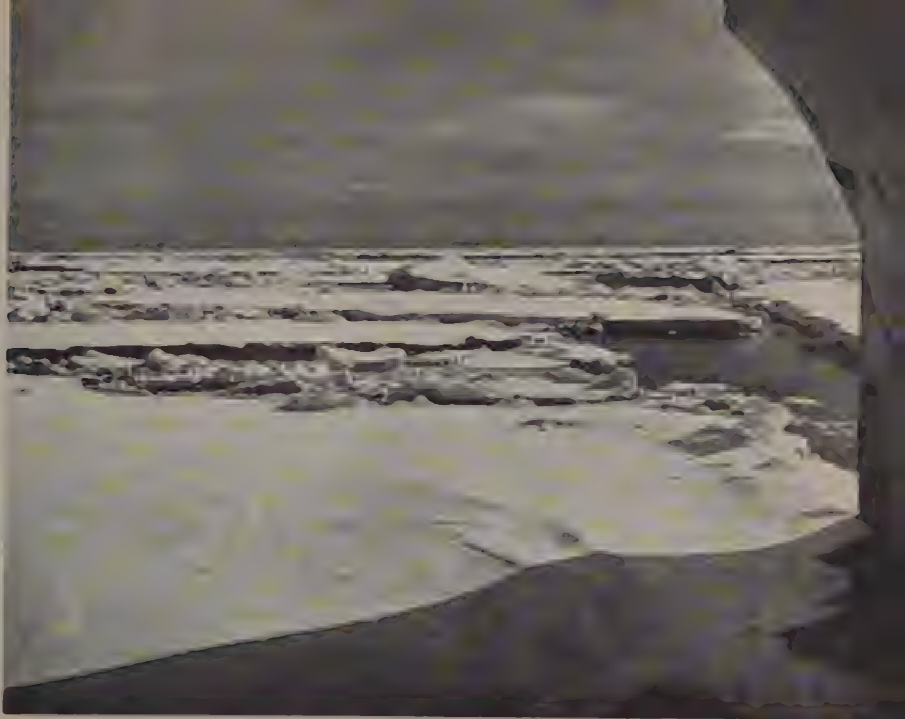
In the other great bay, the Ross Sea, named after Sir James Clark Ross who discovered it in Her Majesty's Ships *Erebus* and *Terror*, the inflowing stream is not so strong and the western boundary does not project so far north. The ice therefore does not pile up here but breaks away in late summer, towards the end of January, every year. In the Ross Sea ships may safely penetrate as far as the Great Barrier in 78° south during February, and it was this route that Scott, Amundsen and Shackleton chose in their journeys towards the pole. But only one voyager reached far south in the Weddell Sea and returned unscathed: that was Weddell himself, the English sealer who gave his name to the sea. He struck an exceptional year when this sea was for some reason comparatively free from ice, and he reported it filled with thousands of great whales. Nearly fifty years afterwards, when the whaling industry of the north began to die out, his report was remembered and whalers turned their eyes towards the fertile fields of the far south.

The seas around the Antarctic continent freeze during the winter. This is a time of calms interspersed with violent storms. Wherever the sea is calm, in all the bays and inlets and over the open ocean itself, it freezes and a thin film of ice forms upon the surface. But the sea is never calm for long and a swell soon comes to break up the film. It breaks up into little circular cakes of ice like pancakes. In fact 'pancake ice' is the name given to this form of young ice. In late summer or early autumn, when the sea is beginning to freeze over again, the surface is covered for miles by these little circular disks among which the old floes formed the year before float like islands. The ship cuts through them easily. It is like travelling across an enormous lily-pond covered with leaves. Indeed when the swell has jostled them a little more, so that the pancakes have become jammed together in compact masses of two or three, and when their edges have been turned up by continual rubbing and jostling against one another, they resemble the great circular upturned leaves of the *Victoria Regia* lily at Kew.

As the weeks of rubbing and jostling and continual freezing go on, the pancakes form into compact floes, more or less circular, several yards wide and several feet thick. This is the pack ice—mile after mile of ice-floes covering the sea like a great skirt all round the coasts of the Antarctic continent. Its major movements are directed by the ocean currents but its local movements are governed by the wind, which opens up long avenues or 'leads' between the floes, presses them close together or opens them out loosely so that a ship may pass through. By the spring the pack-ice floes may be a quarter of a mile across and ten or twelve feet thick, like those giant floes "the size of football fields" that Scott described in the Ross Sea. But in the Weddell Sea I have myself seen them one and a half to two miles across and thirty or forty feet thick. They became welded together by the freezing of the narrow cracks of clear water between them so that the sea was one solid sheet of ice from horizon to horizon.

In the late winter and spring the pack ice, consolidated into large floes, is found drifting out in the open ocean many hundreds of miles from land. It pushes up against outlying islands such as the South Shetlands and the South Orkneys. It may even reach South Georgia in 54° south. Towards the South African coast it pushes as far as the lonely outpost of Bouvet Island. But by the time it has got as far north as this it has been subjected to many weeks of pounding by the ocean swell; the floes lose their circular outline and the pack ice consists of an irregular jumbled mass with heaped-up towers and pinnacles and sharp fangs projecting under water.

You can tell easily enough when you are approaching the pack ice in a ship. Along the southern horizon there is a lightness in the sky, called 'blink', which is the reflection of the daylight off the ice. There is a sudden drop in the temperature of the air and of the sea and you notice that no matter how hard the wind blows from the south no swell gets up. You notice too that the speckled Cape Pigeons and Silver Grey Fulmar Petrels that have been following the ship for days have suddenly deserted her. Their place has been taken by flecked brown and white Antarctic and pure white Snowy Petrels which live along the pack-ice edge. Often the weather clears surprisingly over the pack ice and the grey pall of cloud, to which you have become so used that you hardly notice it, gives place to a bright sun and a blue sky. You are suddenly in a brilliant glittering world of unimaginable beauty. And around you, dark against the sky in all directions, stand



The bow of Discovery II *pushing between ice-floes*

The cap of ice hundreds of feet thick, which drapes the whole Antarctic continent like a tablecloth, has in places a steep cliff. Huge sections break off and float out to sea as tabular icebergs

The Great Ross Barrier, a solid cliff 400 miles in length and about 100 feet high. At one place it drops to sea level and forms a wide bay called the Bay of Whales

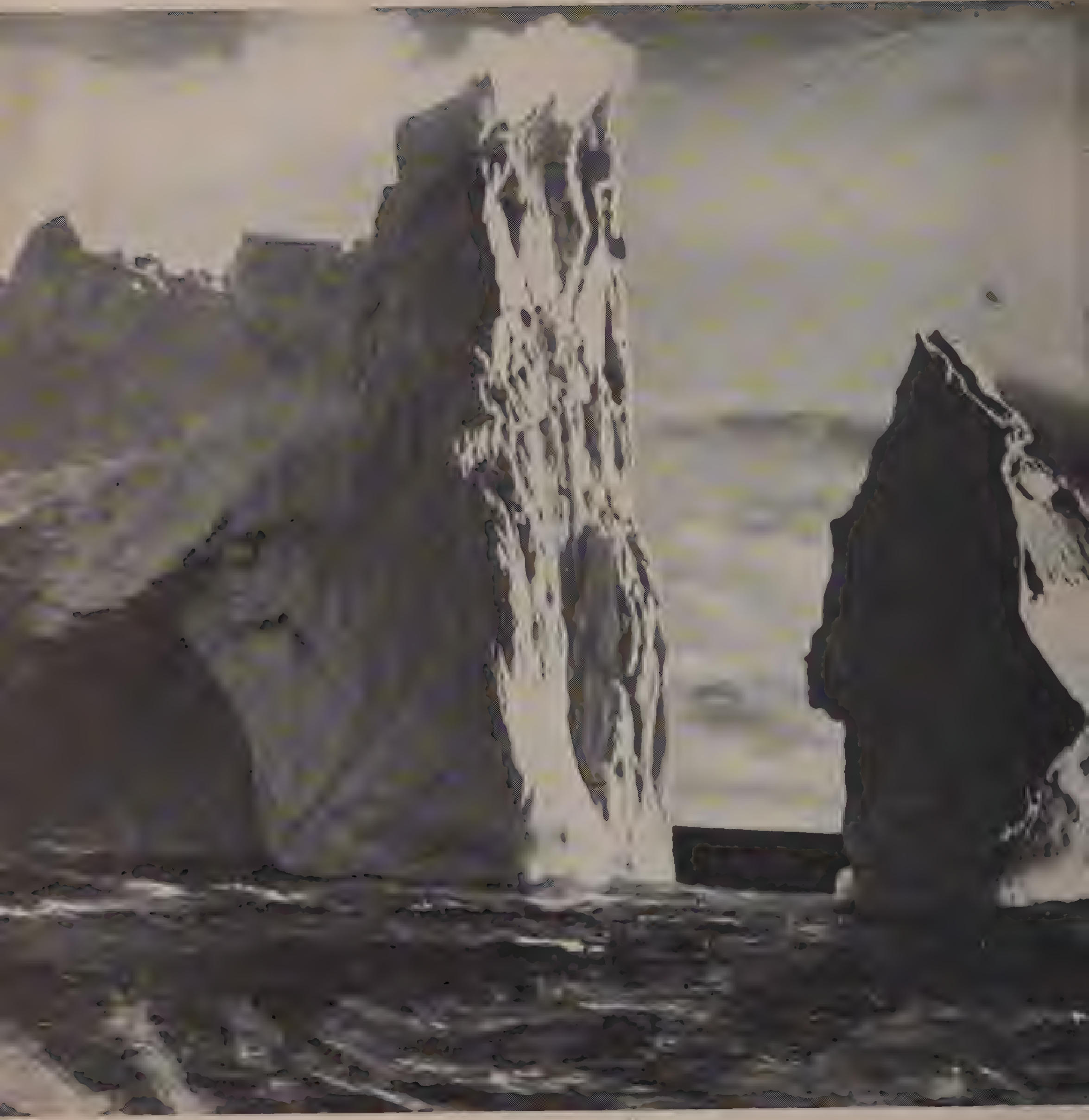
momentarily the high thin spouts of whales.

The cap of ice hundreds of feet thick, which drapes the whole Antarctic continent like a tablecloth, comes down to the sea in places gently and forms ice cliffs. In other places, where the coast is steep, it forms glaciers. Lumps of these ice cliffs and glaciers are constantly breaking off and floating out to sea as icebergs. Those formed from the glaciers are pinnacled and irregular while those broken off from ice cliffs have a smooth, more nearly tabular shape. But there are places where the slope of the land is so very gentle that the ice-cap instead of breaking off floats out upon the sea, remaining at the same time in contact with the ice-cap resting on the land itself. One of these places is the southern shore of the Ross Sea where a shelf

The Bay of Whales was discovered by Shackleton in 1907 and it was near there that Byrd built his great base camp, Little America, here seen buried under many feet of snow

of the ice-cap four hundred miles long from its southernmost contact with the land rests afloat over three hundred fathoms of water.

This is the Great Ross Barrier mentioned so often in tales of Antarctic voyages. It should not be confused with the pack ice, which has been seen to be quite different from it in origin and character. The Ross Barrier, four hundred miles wide from its landward to its seaward edge, presents to the sea a solid cliff of ice four hundred miles in length from its western end at McMurdo Sound to its eastern end at King Edward VII Land. It is everywhere about a hundred feet high and almost dead level on top. At one place only it drops down to sea level and falls back to form a wide bay called the Bay of Whales.



Weathered fragments of what was once a tabular iceberg. As the fragments break up they often form fantastic shapes

This was discovered by Shackleton in 1907 and was thus named because he found it filled with whales spouting and gambolling beneath the ice cliffs. It was here that Byrd built his great base camp, Little America, which was still standing when the *Discovery II* visited the Bay of Whales in 1936. It was buried under many feet of snow so that the only way into the huts was through the skylights in the roofs. And because the barrier is moving very slowly seawards, pushed by enormous glaciers from behind, Little America was slowly travelling with the barrier towards the sea.

On some distant day it will reach the sea and disappear. But the great whales will still be there as they were when Shackleton first came to the place, circling and puffing in the pale half-year of daylight.

On the southern shore of the Weddell Sea is another less well-known barrier, the Larsen Barrier, named after the Norwegian whaling captain, C. A. Larsen, who sailed with Nordenskjöld's *Antarctic*. The ship was driven against Snow Island at the northern tip of Graham Land and crushed. The Larsen Barrier is about the same length from west to east as the Ross Barrier, but only about seventy feet in height.

It is easy to understand how these barriers are formed if you imagine a house with a gently sloping roof standing in water up to its eaves. Imagine that snow has been falling continuously upon the roof for many days. Everyone has seen how, periodically, when the weight of snow becomes too great, compact masses suddenly start to slip. Presently they fall down in a minor avalanche upon the flower-beds below. But if the house is standing up to its eaves in water the mass of snow will not break off but will float out upon the water as a shelf still joined to the roof. From time to time flat lumps will break off from this shelf and float away free. This too happens to our Antarctic barriers. Huge flat slabs keep breaking off and floating away to sea. Thus you meet, sailing free in Antarctic seas, gigantic islands of ice broken off from the barriers. Sometimes they may be as large as an English county, thirty or forty miles long and twelve or fifteen miles wide, flat as a billiard-table on top and with sides dropping sheer a hundred feet into the water. The *Discovery* passed one of these which was estimated to be seventy miles in length. These ice-islands drift northwards and break up into smaller pieces. They form those great tabular icebergs which are characteristic of Antarctic seas. They are never found in the Arctic, where there are no true barriers and all the bergs are of glacier origin and irregularly pinnacled. As our tabular bergs drift northwards into warmer waters they begin to melt. They change their centre of gravity, roll over and change shape. They lose their tabular outline and become smoothly domed or piano-shaped or eaten away into arches, caves and pillars by the sucking swell. They are monsters, dangerous to ships and of great beauty, holding the blue of sapphires in their hearts. They go their remote and lonely way to a lingering doom at last, in the open sea far from their original home, or come aground in shallow water near some Antarctic island. Off the shores of the South Orkney Islands or South Georgia these lonely stranded sentinels keep watch for month after month while they are slowly eaten away.

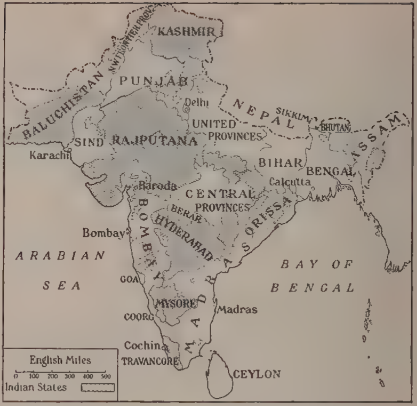
It is estimated that there may be up to seven times as much of an iceberg below water as above it. And since it is constantly rolling over and changing shape, shelves and 'ice feet', as they are called, project under water, invisible to an approaching ship. But this proportion of seven parts below the surface to one above varies according to the age and size of the berg. When ice forms from sea water, or indeed from any water, most of the salts but not all of them are left behind so that the ice is almost fresh. As time goes on such salts as are taken up in the ice tend to drain down to the bottom. Thus in an iceberg or pack-ice floe the ice at the top is comparatively fresh and the ice at the bottom comparatively salty. So that when polar expeditions collect ice to make fresh water they take the ice from the top of pinnacles for preference in order to get the freshest water possible.

An old iceberg is less salty and therefore less dense than a young one and floats higher in the water. The amount of ice below the surface in a berg is also governed by the amount of entrapped air, which may be considerable.

The Indian States
Yesterday and Today

by Professor L. F. RUSHBROOK WILLIAMS, C.B.E.

This is the second article in a short series, introduced to our readers in August by Sir Stanley Reed, designed to explain some of the changing conditions in India today against a historical background. Professor Rushbrook Williams's many academic and administrative appointments in the Indian States enable him to give a personal view of their situation and of the problems they now face



The Indian States, sometimes the despair of the modern politician, are the delight of the historian. That, no doubt, is why I find them so interesting even after many years of intensive study; for my own approach to the complex problems of modern India has been conditioned by the accident that I have occupied a Chair of Indian History in an Indian University.

In truth there are so many Indian States, and they differ so much among themselves, that it is a great deal easier to lump them all together as effete survivals of medievalism than to discover, by careful individual study and equally careful synthesis of its results, why they are there and what they stand for, both now and in the future. I should myself attempt this difficult task with more confidence if I had the space to dive more deeply into historical origins; but for the purpose of this article I must omit a great deal that is interesting and a good deal that is important.

To begin with, we can lay down the outlines of the picture in a few statistics. The Indian States collectively occupy an area of just under 600,000 square miles, or about two-fifths of India; and their subjects number about 90 million people. I say 'their' subjects advisedly; for the whole of this area is not British territory; the King's writ does not run in it; and the Indian Legislature cannot legislate for it. Thus from the political point of view, India is divided into two entities: British India and States India. But while British India is uniformly administered (with the exception of certain tribal areas) and regulated by a common legal system, there is no such uniformity inside States India, which is broken up into a large number of self-contained units which administer themselves.

This lack of uniformity is among the most interesting things about States India; for it provides numerous and very diverse examples of the way in which Indians have governed themselves and each other in the past, and may conceivably continue to govern themselves in the future. Many of the Indian States have their political foundations very firmly laid indeed: for they have witnessed the rise, prosperity and decay of the Empires which have preceded the British Raj in ruling India; and it now looks as though they would survive the British Raj too—at least in its old familiar form.

In essence there is nothing very new about this division of India into two main parts—the country of Direct, and the country of Indirect, Rule. No single Government has ever effectively administered from one centre the vast territory of India, with its great variety of peoples, nations and languages; and I for myself devoutly hope that none ever will. For the contribution which India has made in the past to the common heritage of mankind is bound up with the political and cultural diversity, with the intense local patriotisms and traditional loyalties, which have always operated in India alongside a sense of fundamental unity which knits the whole country together in a way that the stranger finds hard to realize. But this diversity has never implied anarchy; India has always expected that the country of Direct, and the country of Indirect, Rule shall be held together by a set of institutions sufficiently strong to impose peace and sufficiently flexible to preserve diversity.

This expectation, of course, accounts both for the rise and for the endurance of British power in India; for as soon as the East India Company found itself, in its own interests, obliged to become a little Indian State, with alliances and squabbles with other Indian States, it was compelled either to rule or to be ruled. For a time it tried the latter; but the

By courtesy of P. & O. Lines

In Travancore State: the Ruler proceeds along the principal streets of his capital, Trivandrum, during a festival

Moghul Empire was breaking up; and there was no one to keep general order and impose peace upon warring States. So with many hesitations, and much genuine lamentation (for wars, if profitable to individual soldiers, were ruinous for a commercial concern), 'John Company' built up the area of Direct Rule which in turn led to the old traditional responsibilities towards the area of Indirect Rule. But for a long time, the area of Direct Rule was much smaller than the area of Indirect Rule; and it was not until the middle of the 19th century that in the process of conferring what it considered the blessings of Direct Rule, the Company gave the map its present shape by annexing bits of territory hitherto Indirectly administered.

There was a strong school of thought at that time which considered that the Company ought to bring the whole of India under Direct Rule in accordance with the prevailing passion for uniformity and centralization. But the Company's honour was pledged to so many States which had stood by it loyally, that annexation was not practicable in the case of the older and stronger Units; while the Mutiny showed that even in the case of the Units where the Company considered that it had a free hand, the policy of annexation was charged with sufficient dynamite almost to blow the whole of the British Raj sky-high. After the Mutiny, as everyone knows, the Crown took over the treaties and engagements with the States, and their continued survival as political entities was never thereafter in serious doubt.

Hence it is that we see today in India States whose existence goes back to dim antiquity, side by side with others whose form was shaped by the interregnum between the Moghul Empire and the rule of the Company. The States of Cochin and Travancore have dynasties of immense age; so have Rajput States like Udaipur, Jaisulmer and Jodhpur, whose Ruling Houses have founded many other great States such as Bikanir and Cutch. The younger sons of these again, of the true Rajput blood, carved out in turn independent kingdoms of their own. Other States, like Hyderabad (the greatest of them all) and Mysore, represent Viceroyalties of Empires now vanished—Hyderabad of the Moghul Empire and Mysore of Vijayanagar. Yet another group of States show the imposition, during the 18th century, of new Ruling Dynasties (some of them, for all that, of immensely ancient lineage) upon territories occupied by older statal units. In this class fall the great Maratha States—Baroda, Gwalior, Kolhapur, Indore—and some of the Moslem States, such as Bhopal, Tonk and Rampur.

Had States India been made up of Units roughly similar in size and resources to those few I have already mentioned—although even these display an astonishing variation in both respects—the problem of the Indian States would not be so complicated as it is. But the consolidation of the Company's power in India imposed a fairly quick ordering on anarchic conditions, with the result that some strange things happened. Often out of sheer ignorance, the Company's officers recognized barons revolting against their parent States as independent rulers; sometimes it reduced Princes to the position of landed proprietors; but the result on the whole was an extraordinary multiplication of Units inside States India. Indeed, there are by the book today no fewer than 562 of these Units, ranging in size and importance from kingdoms the size of Italy, with revenues of many millions sterling, to a few acres of land producing a handful of pence. This immense variety may mislead. For roughly fifty-seven sixtieths of the whole area of States India is shared among States whose Rulers, one hundred and thirty-five in number, are sufficiently important to occupy seats of their own in the Chamber of Princes—of which more later; while two-thirds of the area, two-thirds of the population and three-quarters of the revenue are comprised in the twenty-odd greatest States.

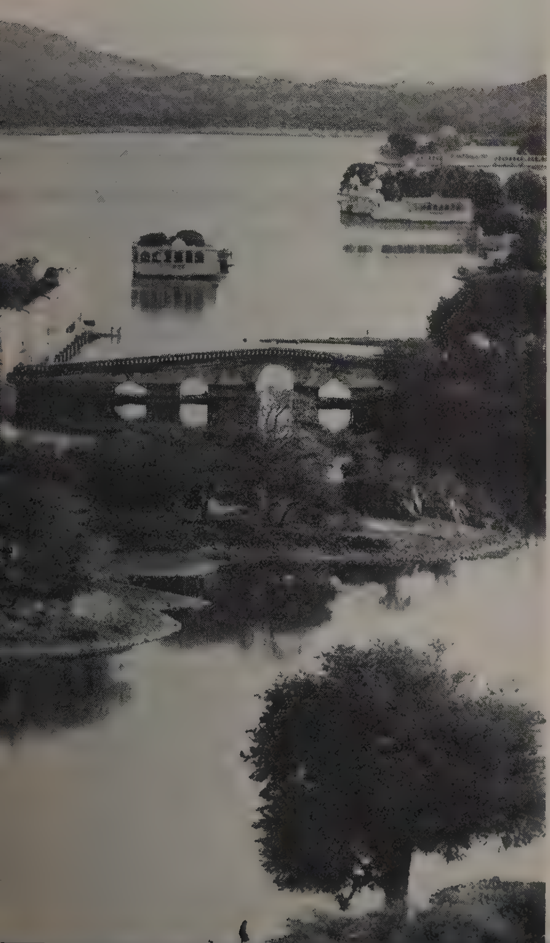
The task of 'running' British India and States India side by side has proved horribly complicated; and the wonder is that more—and worse—mistakes have not been made. Sensibly enough, the task of dealing with the States was assigned to a special hand-picked cadre, recruited partly from the Indian Civil Service and partly from the Indian Army. But it often struck me, while I was in India, that it was a mistake to give this same cadre strictly 'foreign' work as well. For a distinguished career in handling the rough-and-ready Frontier tribes, or the Trucial Sheikhdoms of the Persian Gulf, was not the best preparation for dealing with the age-long ceremonial and complicated etiquette of an ancient Rajput Court. There can be little doubt that this duality in the work of the Government of India's Foreign and Political Department was a survival from the days when States India was regarded as something external, and not really a part of India at all.

One can find this attitude of mind mirrored very faithfully in some of Kipling's stories. I came across it myself in India long before I had ever set foot in an Indian State. And the greatest revolution which has taken place in the position of the Indian States is the recognition by Britain that they are really part of India. This revolution I was privileged to witness and, possibly, in a very humble capacity, to promote.

It was not the fault of the Indian States, I think, that the change did not happen earlier. They have never regarded themselves as anything but a part of India, although a particular part, with definite characteristics. They have always known that their welfare is bound up with the welfare of the entire country; and have always objected to any plan which threatened to run the country as though they did not exist. They have never wanted to run British India, although I have known them express themselves frankly about the way in which British India has sometimes wanted to run them. The real root of the misunderstanding lay in the old policy, inherited by the British from the Moghuls, of dealing with each State separately and not allowing them to have any communication with one another.

Originally, no doubt, this was a 'security' precaution; but it lasted long after there was any justification on that score. The effect was to make each State, great or small, into a compartment which threatened to become watertight to all ideas of change and progress. This was a great obstacle to the realization of common interests among the States and made good relations between the Indian Princes and the leaders of British India unnecessarily difficult. I well remember the shock to official opinion, shortly after I came to India, when a distinguished Prince actually invited a distinguished Indian politician to stay with him, and to discuss Indian constitutional problems! One might almost have thought that a *coup d'état* was being planned.

The great change to which I have referred came about from a variety of causes; but perhaps the prime mover was the growth of nationalism in British India, and the gradual recognition that the fulfilment of British rule was Indian self-government. So long as the Government of India was British in personnel



Udaipur—the 'City of the Sunrise'—capital of the premier Rajput dynasty of India, lies on the banks of Pichola Lake. The surrounding hills have been the scene of many fierce battles to preserve the independence of Udaipur State
Paul Popper

and inspiration, it could look after the affairs of Direct Rule and Indirect Rule in the orthodox way. Even so, as British India began to develop, the Government of India gradually became more interested in it than in States India, where there was not much to do except to keep a watchful eye, to guide, advise, admonish: not nearly such interesting jobs as promoting economic development, building up a canal system, banishing famine and coping directly with the administrative needs of millions of people. Inevitably there grew up a habit of setting the needs of British India above the treaty rights of the States, without, unfortunately, taking steps to make the States anything but the most remote and accidental sharers in the resulting advantages. Such developments as the institution of All-India communications were, of course, for the benefit of everyone; so possibly, though less certainly, was the centralized control of salt and opium. But the States felt that in these and many other matters it was British India that called the tune, while they were expected to pay the piper.

For example, when it suited British India, for the purpose of fostering indigenous industries, to raise its customs tariff, this was done without consulting the States, whose economic interests were largely different. Moreover, the States complained that their own development was sometimes cramped for fear that this should affect the interests of British India; and they believed that the supervisory functions of the British Government over their administration were occasionally biased in this way.

Just about the time when the States were beginning to feel acutely that their interests were being sacrificed to those of British India, another complication arose. The opinion of the educated middle classes in British India was becoming the driving force of Indian Nationalism. Plainly the old British Government of India would in course of time become an Indian Government of India, and would take over the area of Direct Rule. Would it also take over responsibility for the area of Indirect Rule? "Yes, of course," said the British Indian Nationalists; for otherwise it could not be a real Government of India. "No," said the Indian States; for no Government representing British India alone had any claim to concern itself with the area of Indirect Rule, its only connection with which was a common allegiance to the British Crown.

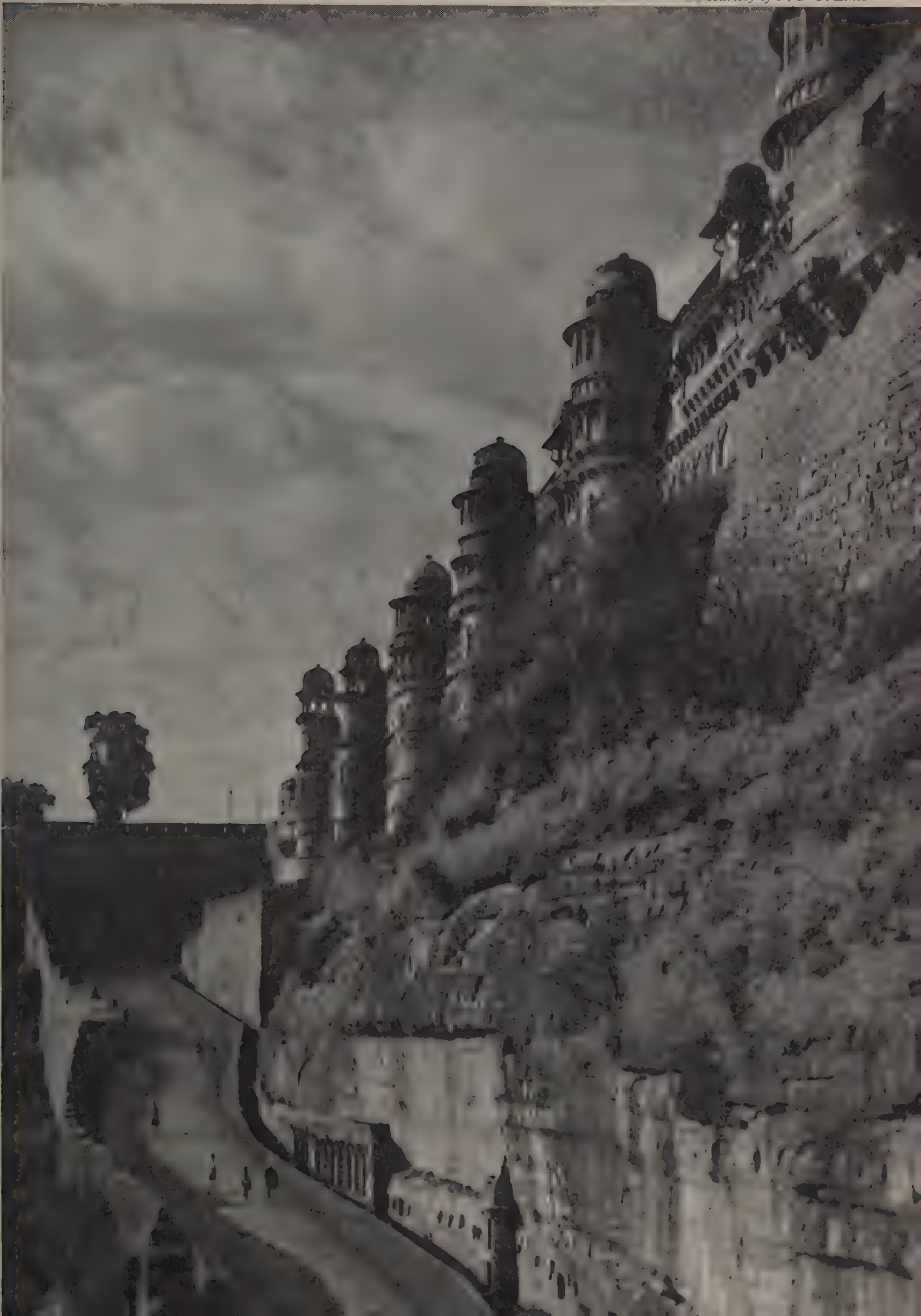
There were protracted and heated argu-

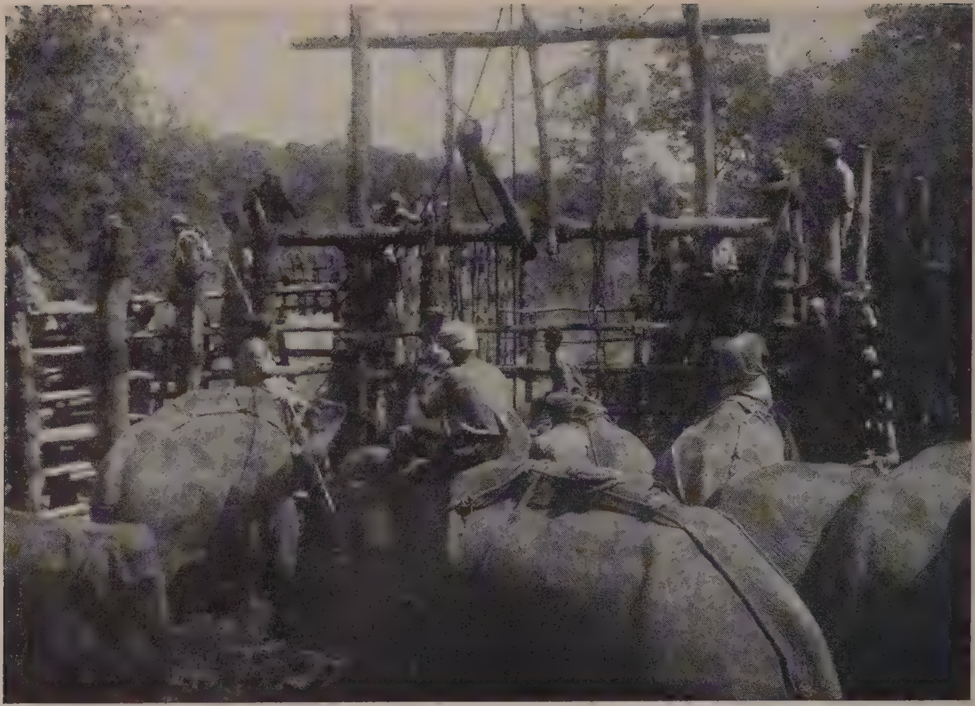
This graceful building in Trivandrum, capital of Travancore, houses the principal Civil Courts

By courtesy of the High Commissioner for India

The great fort, renowned through Indian history as one of the mightiest strongholds of Central India, which stands as a landmark above the modern capital of Gwalior State

By courtesy of P. & O. Lines





By courtesy of P. & O. Lines

The industrial organization of Mysore State shows a striking mixture of ancient and modern. Side by side with a well-organized range of manufacture, traditional industries such as elephant catching still flourish under State regulation

ments along these lines; and many Committees and Commissions had their say, before the true solution was hammered out. This was to constitute something quite new in the way of a central machine; one which, because it was empowered in certain matters to speak both for British India and for the Indian States, could in these matters speak for everyone. But it is worth pointing out—for I do not think that the fact is clearly realized—that this solution only became possible because the British gave up trying to run the area of Direct Rule as a highly centralized unit. 'Provincial autonomy' was just a modern and fashionable way of conferring upon the great administrative Units of British India the same kind of powers of controlling their own backyard which the Units of Indirect Rule had for so long exercised.

Many difficulties of course remain; the Provinces of British India are artificial creations whose boundaries cut across racial and linguistic frontiers. Moreover, they are democratic in constitution, as well as being for the most part immensely wealthy and populous compared with even the greatest of the States. But the really important progress which has been made during my time in India towards a solution of the Indian political problem is this recognition that the plan of Indirect Rule is the natural one for India; and that healthy development depends upon the existence of semi-autonomous Units—whether one calls them States or Provinces—linked together at the top by a machinery empowered to deal with their common interests.

To this development the Indian States have made a most important contribution. Many people were surprised when at the first Round Table Conference they announced their readiness to federate with a self-governing British India. I was not—indeed I should have been startled if they had not done so; for I had long been working in and with them, and I realized that such a decision was in keeping with the Indian political tradition of which they are the living exponents. But I also realized—as unfortunately greater and wiser people did

By courtesy of P. & O. Lines

(Above) *An admirable example of town planning in ancient India is provided by Jaipur, the capital of Jaipur State. Its broad roads and symmetrical lay-out curiously anticipate modern ideas.* (Below) *Bedi Port, Nawanagar State—a prosperous harbour which owes much to the energy and enterprise of 'Ranji'*

By courtesy of P. & O. Lines

not—that the federation of which the States were thinking was a loosely integrated one, confined in its scope to the bare minimum of 'All-India' subjects—defence, foreign relations, communications and the like—such as would have been wholly compatible with the maximum of local autonomy for States and Provinces alike. And when it was clear that both the British authorities and the British Indian Nationalists—though for rather different reasons—desired an immensely powerful and complicated central structure, I felt sure that the States would not, in the last resort, assent. Nor did they; so that the Act of 1935 remains for the most part a monument of misdirected ingenuity. But when the time comes to implement the Cripps Declaration, I am certain that the line of advance will be to build the central institutions upon the structure of the existing Units, so that India will present its traditional appearance of a collection of allied and associated States held together by some central machinery. Viewed from this standpoint, I do not see any thing very alarming in the Moslem desire for a 'Pakistan' of predominantly Moslem areas. It will, if it should materialize, be a collection of Units grouped according to a particular criterion.

It was not, of course, until the old policy of enforced isolation was relaxed that the States were free to make their contribution to the political developments which I have outlined. Such progressive Rulers as the late Maharaja Scindia of Gwalior and the present Maharaja of Bikanir took the lead in urging upon the authorities the necessity of some collective organization in which the States could discuss matters of common interest to themselves and to British India. As a result, the Chamber of Princes was constituted by Royal Proclamation, and has now been in existence for more than twenty years. Unique now in the world as an assembly of sovereign rulers, it has on the whole worked well, and has been quick to recognize the responsibilities of its members, both to their own subjects and to India as a whole. It has a practical machinery of standing committees on a representative basis, and has won its place among the pivotal institutions of modern India.

The emergence of States India into recognition as an essential and integral part of any future India-as-a-Whole has naturally been accompanied by much political controversy. The exaggerated criticism sometimes directed against the Princes, whether individually or collectively, from British India is neither impartial nor disinterested. Future power in India will, it is assumed, depend upon future votes, and there are nearly 90 million people in the States! Plainly, if voting conditions there can be assimilated to voting conditions in British India, the States Representatives will be a valuable reinforcement to British Indian democratic parties in any All-India assembly. Hence a continual campaign of agitation, designed to arouse the subjects of the States to the necessity of forcing upon the Rulers far-reaching constitutional changes. Hence, also, the steps taken by the State Administrations to protect themselves from trouble artificially created by paid agitators. But hence also a healthy and growing sentiment, encouraged by the leading Princes, and voiced with increasing determination in the Chamber of Princes, that the strength of the States rests upon the contentment of their subjects; that incompetent or extravagant Rulers are a menace, not only to themselves, but to all their brother Princes; that the survival of traditional institutions depends upon their capacity for adaptation to modern needs.

Also in Nawanagar State is the revolving solarium, for radiant heat therapy—a gift of the late Maharaja to his people

During the years when I was studying the affairs of the Indian States, I saw a great deal done along this line. It is, of course, an easier task for large and wealthy States than for small and poor ones; indeed almost all the greater States have achieved by now some particular line of advance, of which they are justly proud and consider better than anything that British India can show. This may be a comprehensive Health Service; or a system of free Higher Education (elementary education is free everywhere); a phenomenally low level of taxation or a wiping-off of agricultural indebtedness; an elaborate network of road-rail communications or an improved form of canal-colony; a well-devised scheme of village libraries or a boldly executed plan of slum clearance. But apart from all this, there has been in recent years a marked improvement in the level of administration. The greater States have long provided an independent judiciary staffed by highly qualified officials; the mass of the States are following the same lines. There has been a general rise in the salaries and the competence of the State Services, accompanied by a rising level of administrative standards. Admirable annual Reports are now published by many States, in which the improved working of traditional, as well as of modern, institutions can be readily followed.

It would be a great mistake to imagine that the opinion of the people does not matter in an Indian State. It does not always express itself in the same fashion as in British India; but then it has not an 'alien government' to protest against! It is in fact present at every turn of State policy; and no Ruler dare ignore it. If he does, trouble quickly arises; and trouble of the kind that often calls for the intervention of the British. In fact, the Prince has to feel his way carefully before making any major change; for in the States, custom and tradition are custodians alike of the rights of the people and of the prerogative of the Prince. Even upon such a question as federation, I know from my own observation that certain Rulers who hesitated in their decision were finally obliged to refuse to accede by the firm pressure of their own subjects. If I were to venture upon a generalization, I should guess that the main obstacle to 'modernization' (as contrasted with steady progress along old lines) is not the conservatism of the Rulers at all. This has always seemed to me a very doubtful factor; for every able Ruler wants to make his own mark on the long records of the achievements of his dynasty. The real explanation is the reluctance of the people to tread in new ways.

The people of the Indian States are not less active mentally than the people of British India (as anyone who has had dealings with a Marwari from Jodhpur or Bikanir can testify); but they do look at things in rather a different way. In British India people welcome, and indeed demand, change because they think it will bring self-government nearer. But in the Indian States it is Indian rule; and when, as is so often the case, it is competent and kindly, the people want no change. Why should they? If the rule is bad, they want the evil redressed, but they do not want the rule changed.

That this feeling has lasted so long is probably due to two factors. First, the system has worked pretty well, and when changes were made, they were made with the consent of everyone who matters. Moreover, every man in the State has felt he is part of the corporate whole; and when he is in British India, he tends to wear his *pagri* at a rakish angle and to proclaim proudly "I am the subject of the Maharaja of Badmashpur!" with the implication "I am enjoying the *swaraj* for which you people are still shouting". But secondly, in the majority of States there is not any strong contingent of the urban middle class which has been the backbone of the nationalist movement in British India. Where this class is most strongly represented, there we find the most highly developed and most successfully-working representative institutions on the British Indian model. Where there is no strong urban middle class, where the ancient social structure of India still stands, representative institutions, even when carefully explained and commended by an enlightened and progressive Ruler, never seem to command much local interest. If they mean some addition to the generally very light (by British Indian standards) burden of taxation for public purposes, the people often say quite frankly that they would rather not have them.

Nevertheless, it seems clear that representative institutions are the destiny of the States; for the Rulers find in them a quicker way of ascertaining grievances, of gauging public feeling, and of educating public opinion as to the necessity of progressive measures. Also, they enable the Ruler to share responsibility for measures which he thinks may be challenged. It is no small advantage for a Prince nowadays to feel that the sentiments of his people are formally embodied in a written resolution! I believe it is for these reasons, rather than because of any popular pressure, that 72 per cent of the entire population of the States have legislative Assemblies, and 90 per cent have local councils with non-official majorities.

Among the greatest problems which beset the States today is that presented by the existence of the numerous small Units whose revenues do not suffice to pay good officers, to maintain efficient public services, and to provide a decent standard of administrative efficiency. Compared with British India, the States do have certain advantages; living is on the whole cheaper; taxation lower. But with the exception of the greater States, the available resources are small. Not many can afford to embark upon the admirable industrial development that characterizes, for example, Hyderabad, Baroda and Mysore; and which leads inevitably to a cumulative increase of wealth and a higher standard of living. The obvious line of advance for the smaller and poorer States is a pooling of resources and the provision of facilities in common; but this is not easy, for Princes and people, like the Highland Chieftains and their clansmen in the old days, would often seem to prefer a poverty-stricken autonomy to a prosperous pooling. But difficult as the process is, there seems no alternative; for financial trouble, and the inefficiency resulting therefrom, have tarnished the good repute of many more States than have been injured by active misgovernment. That, no doubt, is among the reasons why the Chamber of Princes attaches great importance to the proper ordering of finances in its member States; and, in particular, urges upon all that rigorous separation between the Privy Purse and the Exchequer which has long ago been accomplished in all the greater Units.

That the problems now confronting the Indian Princes will be successfully surmounted I have little doubt. The root of the States strikes deep into the soil of India—so deep that their existence, and the ideas for which they stand, have profoundly influenced the polity even of British India. It has yet to be seen whether all the twigs which spring from this root will remain intact. But there are many mighty branches without whose sturdy strength India as a whole would be the weaker. They at least will be perdurable.

Christmas Carols

by LAURIE LEE

Carol-singing, in my village, was the special province of the boys; the girls had little to do with it. Like hay-making, blackberry-picking, cowslip-gathering and wishing-people-a-happy-Easter, it was one of the seasonal occupations which brought us pocket-money and which we exploited to the full.

By instinct we knew when to begin: a day too early and we should have been unwelcome; a day too late and we should have received lean looks from people whose bounty had already been exhausted. But when the strategic night arrived we recognized it and were ready.

* * *

And so, after tea, as soon as the wet frosty wood has been stacked in the oven for the morning fire, and the sisters have settled down round the kitchen table making chains of paper for decorations, we put on our thick scarves and go up into the street, calling between our hands from house to house, till the boys who know the signal run out to join us.

One by one they come stumbling over the snow, swinging their lanterns round their heads, shouting, and puffing out clouds of vapour in the air. "Coming carol-barking, then?" we say, and we require no answer. We are the church choir. For a year we have praised the Lord with loud energy and devotion, and now, for this service, it is our right to visit all the big houses in the valley, to sing our carols and receive special tribute.

This means a journey of about seven miles over wild and generally snowed-up country. So the first thing we do is to gather in an old shed and plan our route. We blow on our fingers and argue; but this is just a formality, for year by year we follow always the same beaten track. Next we agree tentatively on a leader. We all fancy ourselves as leaders, and he who would enjoy that status, unchallenged, for a whole night must indeed be a man of iron.

As soon as these preliminaries have been observed, we set out. There are eight of us: Jim, the simple one, who has never sung a note of music in his life; Horace and Boney, the two cousins, who are always fighting everybody and always getting the worst of it; Clergy Green, who has a mania for reversing his collar and praying; Walt, the hard-fisted bully; and my two brothers. As we go down the street other boys, from other villages, are already about the place, singing, tapping on windows and shouting through keyholes, " Knock on the knocker, ring at the bell, give us a penny for singing so well!" Although these are mostly small fry they are not to be ignored; competition is in the air, and we put our best foot forward.

The first port of call is the house of the Squire. It stands deep in the valley on the outskirts of the village, a beautiful and forbidding place. We go noisily down the drive, gathering courage from each other. For illumination we carry candles in glass jars suspended on loops of string. Snowdrifts have been shovelled up on each side of the road; they tower above us like cliffs of chalk and throw fantastic shadows. It is cold, and we are wrapped round with scarves, we have cloth caps buttoned down over the ears and army puttees about our legs. We are so fat with clothes we look like a band of Tartars trudging through the snow.

As we approach the big house, trooping in single file across the wide and silent gardens, we too grow silent. And as we arrange ourselves round the great front door we are dumb with nerves and strangeness at standing here. The lake nearby is black and sparkling with ice, the fountains are motionless, and the waterfall is frozen, without a sound. High up, from the village, we hear bursts of singing as other boys give tongue, going about their mercenary business.

We knock on the door and announce ourselves. A maid bears the tidings of our arrival away into the dim echoing distances of the old house, and we clear our throats till she returns. At last she conveys to us the signal to begin and the door is left ajar for us.

We have no music, but the carols are in our heads—dozens of them. We sing 'Wild Shepherds'. We begin it in absolute confusion, plunging simultaneously into a babel of different keys and words and tempo; but slowly we gather strength and cohesion; he who sings loudest takes the rest with him, and as our confidence grows the carol takes shape and our voices lose their agonized hoarseness.

As we sing we gaze about us. This huge stone house, with its ivied walls and twisted chimneys, is a mystery long hidden to us.

What are those rooms and attics, those gables, those diamond windows veiled by the black wings of the cedar trees?

So we sing 'Wild Shepherds', staring with fascination into the strange lamp-lit hall which we have never entered; staring at the stags, the spears, the painted shields and ancient muskets—till Boney gives me a dig in the ribs, and there on the stairs, like Banquo's ghost, stands the old Squire, listening, with his head on one side.

We are hypnotized. We sing carol after carol, but the Squire does not move. At last, exhausting our repertoire, we are about to begin again when he comes slowly down the stairs and over to the door, stabbing the ground with his stick. Carefully he drops two coins into our wooden box, scratches his name in the book we carry, gives each of us a searching look with his moist, blind eyes, and turns away in silence. He is old, and feels the time passing. At each repetition of village ritual he seems more and more affected.

With a mumbled "Merry Christmas" we turn away from the door. We take a few sedate steps up the drive and then break into a run and rush over the lawns and through the back gate in triumph. The first ordeal is over and there is money in the Box. We laugh and criticize one another's singing; Boney should not have attempted that throaty harmony of his, he just cannot keep the tune. Impatient to discover the extent of the Squire's bounty, we hold a lamp over the Book and see the sum of four shillings signed by his name. This is a good beginning. No one of any worth in the district will dare be shamed by this example. Four shillings, then, is the least they can give us.

Now, with a slight swagger, we press on, taking it in turns to carry the Box. Though we derive genuine pleasure from the songs we sing, yet how much more wonderful we find them now they earn us these fabulous sums. We begin to consider our own voices and whether one carol is not better suited to us than another. Walter suggests Horace shouldn't sing any more; his treble is beginning to break up, he says. Horace disputes this and there is a brief token battle between them; they fight as they walk, kicking up the snow, but this is soon forgotten and Horace still sings.

Steadily we work up the valley, going from house to house, visiting the lesser and the greater gentry, the farmers, the doctors, the merchants and other exalted persons. Although it is freezing hard and some of the short cuts across the fields are fraught with all kinds of arctic peril, yet not for a moment do we feel the cold. We are covered with snow; it hangs on our eyelashes and stings our nostrils, it gets into our boots, melts under our puttees, and drips steadily from our long peaked caps: but we do not care. The Collecting Box grows heavier and more musical and the list of names in the Book grows longer and more extravagant, each trying to outdo the other. Mile after mile we go, fighting against the wind and falling into snowdrifts.

The long-legged ones set the pace and we all stride forward with terrific purpose, growing more and more excited and spending our money in a thousand different ways.

And yet we never see our audience. We visit house after house; we sing in the porches, outside the lighted windows or in damp stone-smelling hallways; we hear voices from hidden rooms; we smell rich fabrics, fruit, wine and strange hot food; we see maids bearing in dishes or carrying away coffee-cups; we receive nuts, cakes, figs, dates, preserved-ginger, plum-pudding and money; but we never see our benefactors. And apart from the Squire, who has shown himself to prove he is alive, we never expect to.

As the night draws on there is trouble with Boney. 'Nöel' has a rousing harmony which he persists in singing, and singing flat. The others forbid him to sing it at all. We call a halt and there is a great deal of discussion, but at last Boney insists on trial by combat, with the inevitable result. Picking himself up, he agrees that perhaps the rest are right, but presently he disappears altogether. There is no trace of him anywhere and he makes no reply to our shouts. Much later, as we arrive at a far point up the valley, someone says 'Hark!' and far away across the fields from the distant village comes the sound of a frail voice singing alone; singing the harmony to 'The First Nöel', and singing it flat. It is Boney—branching out on his own.

High on a hill between Bisley and Painswick we approach our last house, the place of Joseph the farmer. For him we have a special carol, one which we like and which is also about another Joseph. We imagine there is a slight element of danger in singing to him this carol of his namesake. But we keep his house till last, because then we are in finest voice and he will do us well. For carols are more than a quaint fancy to him; they are the snow, the holly, the roast beef of his youth; he is critical, but he is generous.

The final stretch of country to reach his farm is the most difficult of all, especially in this weather. The rough bare common which hangs above Painswick is open to all winds; the snow is whipped into great curling drifts higher than we are; here sheep are buried and wagons lost; here murder was done only a few years back; and here the wind howls, and blows the powdered snow like stinging sand into our screwed-up eyes. Huddled together we tramp in one another's footsteps and I think of King Wenceslas and his page. The candles burn low in the jam-jars and we talk loudly above the gale. We keep checking up on our numbers and Jim keeps getting lost. I turn once to look at a shooting star, find myself alone, and start to shout at the top of my voice. But the others are only three paces ahead, behind a snow-drift ten feet high.

At last, crossing the frozen stream of the ruined mill whose wheel in summer still turns a barren mechanism, we climb up to Joseph's farm. Sheltered by trees, warm on its bed of snow, it is our final goal, and from here there is an easy way back to the village.

As always it is late; as always it is our last call. The snow has a fine crust upon it, the old trees shine as though made of glass, icicles hang from the cowsheds, and there is a sharp smell of straw everywhere.

We gather round the farmhouse porch, and broad streams of stars run down over the valley and away to Wales. On the white slopes of the hills, seen through the black sticks of Twyning's Grove, a few red lamps still burn where the village lies.

Everything is quiet; everywhere there is the faint crackling silence of a winter's night. We start singing, and we are all moved by the words and the sweetness of our voices. Very pure, very breathless, like tinkling automatons, we sing:

As Joseph was a-walking
He heard an angel sing,
This night shall be the birthtime
Of Christ the heavenly king.

He neither shall be bornéd
In housen nor in hall,
Nor in a place of paradise,
But in an ox's stall.

And two thousand Christmases become real to us; the houses, the halls, the places of paradise have all been visited; the stars swell to guide the wise men over the desert, and across the farmyard we can hear the beasts in their stalls. We are given baked apples and hot mince pies; in our nostrils we smell frankincense and myrrh; and in our wooden Box, as we head back for the village, there are golden gifts for everyone.

Bill Brandt

Through valleys of snow and fields of iron grass, the carol-singers go from village to village, shouting their Christmas songs to a silence of winter cold, to a landscape lit on by the moon or the candle of a smoking lantern

Notes from a Yorkshire Journal

by JOHN PIPER

The illustrations are from drawings by the author

In 1798, when John Hutton wrote his *Tour to the Caves*, picturesque travel was the fashion, and the excitement, risk and discomfort of exploring caves was a newly added delight. The 'Tour' was published in the form of a letter to a friend. "Sir," it began,

> according to promise, I sit down to give you an account of our summer's excursion. After having made the tour of the lakes, we were induced to proceed from Kendal by Kirkby-Lonsdale, Ingleton, Chapel in the dale, Horton, and Settle, in order to see the caves and other natural curiosities in those parts of the West-riding of Yorkshire. I must own this second part of my tour pleased me more than the first, being peculiarly adapted to my taste for natural history, as also for the extraordinary and the terrible. Some may be as much entertained with the profound, as others with the lofty; and some may be as much amused with the sublime, as others with the beautiful. This was the humour of my genius, and here it was abundantly gratified.

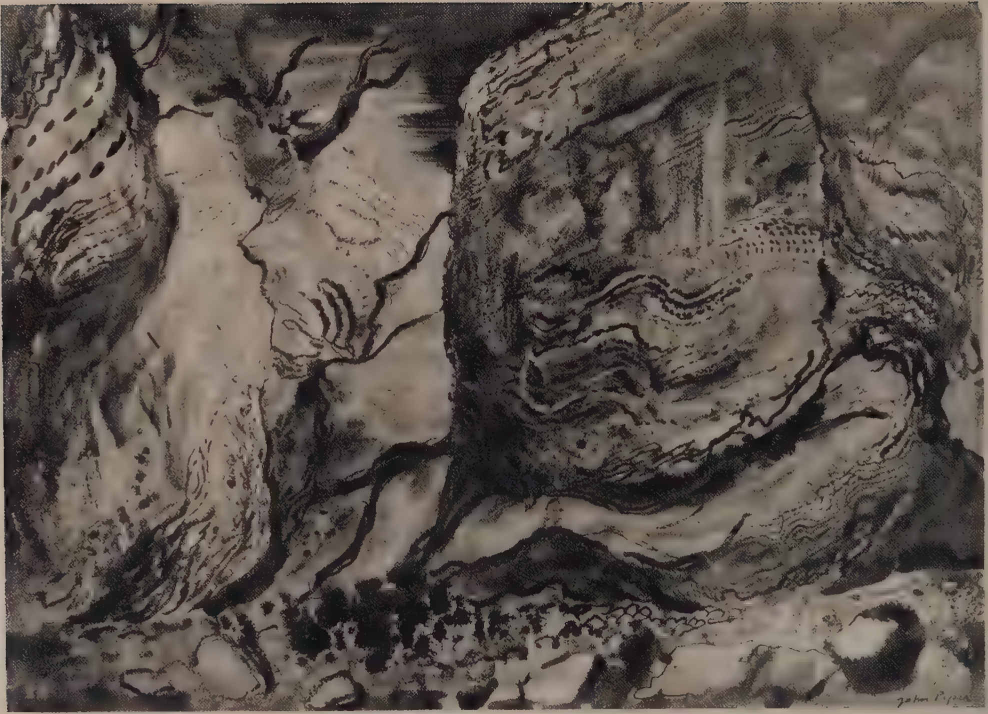
John Hutton's treatise, which begins as a topographical journal and ends as a philosophical tract, quickly went into a second edition, other guides to the 'profound' appeared, and people by the hundred began to take an interest in being lowered into pot-holes by ropes and searching cold caverns by torchlight for stalactites resembling parsons in pulpits and Roman warriors.

Dr Pococke had visited Weathercote Cave in 1751 and was impressed by its 'sublimity'. The same kind of interest, rather vulgarized at intervals, has been kept alive for nearly two hundred years. Today one can travel in a L.M.S. carriage neighboured by tourists who are going to this corner of the West Riding 'pot-holing', their curiously-shaped luggage (stacked in the corridor because it is too awkward for the rack) including strong electric torches, coils of rope and alpenstocks. The unathletic tourist, who has no intention of being lowered or raised anywhere that his feet will not take him easily, can find, in exploring these regions, the beautiful pleasantly combined with the 'sublime'. Here, apart from what a guide-book writer has called the "marvellous agglomeration of underground marvels", there is a beautiful country of wild green fells, peat-stained streams and rocky outcrops. The hills are shaped as the hills nowhere else are shaped; the faults and fissures give them an odd and beautiful contour, and the whole region is dominated by three mountains — Ingleborough, Penyghent and Whernside—which are, as mountains should be, impressive and memorable on account of their form and personality rather than on account of their height. Ruskin (in *Præterita*) described these moors with loving care. They are

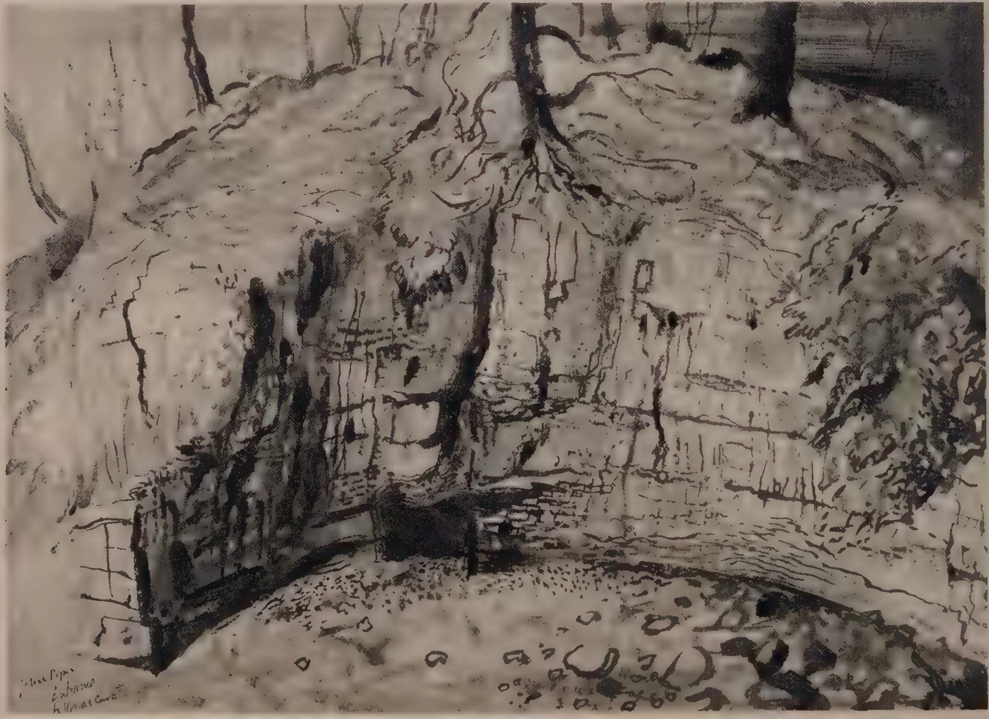
> exposed to drift of rain under violent, nearly constant, wind. They break into wide fields of loose blocks, and rugged slopes of shale; and are mixed with sands and clay from the millstone grit, which nourish rank grass, and lodge in occasional morass: the wild winds also forbidding any vestige or comfort of tree, except here and there in a sheltered nook of new plantation. . . . [As to the streams]: for all their losing themselves and hiding, and intermitting, their presence is distinctly felt on a Yorkshire moor; one sees the places they have been in yesterday, the wells where they will flow after the next shower, and a tricklet here at the bottom of a crag, or a tinkle there from the top of it, is always making one think whether this is one of the sources of the Aire, or rootlets of Ribble, or beginnings of Bolton Strid, or threads of silver which are to be spun into Tees.

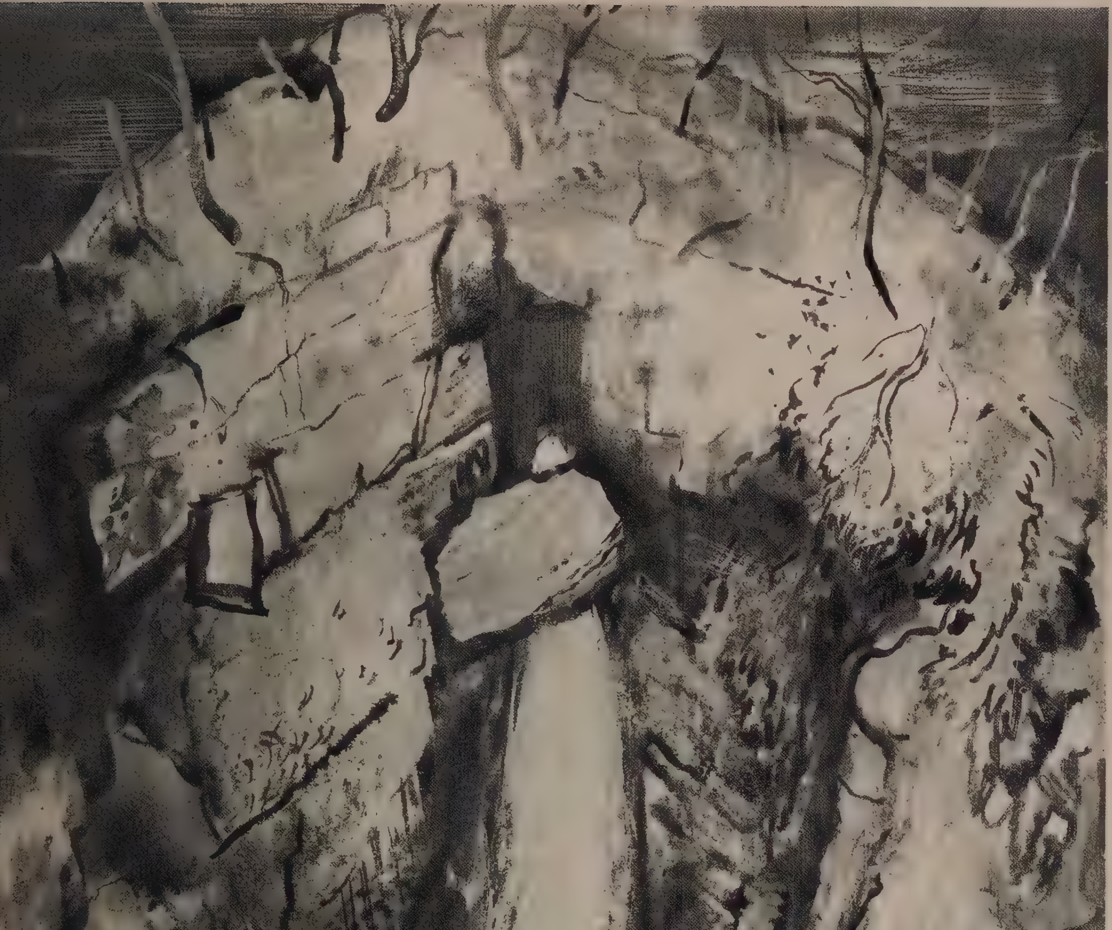
There is water everywhere. Apart from the "stationary blasts of waterfalls", it oozes and trickles and gurgles wherever you are, on high ground or low. Going north in the train from Leeds through Saltaire and Skipton, the country begins to open up towards the fells that eventually become mountains, and looks dry and bare until at some point in the journey the train stops and you hear the familiar, necessary sound of running water that gives the region life and character. Stone walls thread the lower grounds and in the sheltered places ash, sycamore and rowan sprout patchily by the streams.

AVE ENTRANCE IN EASEGILL. Easegill valley runs up into the mountains from the plain of the river Lune near irkby Lonsdale. It has curiously contorted rock-formations and winding caverns half hidden by rowan trees

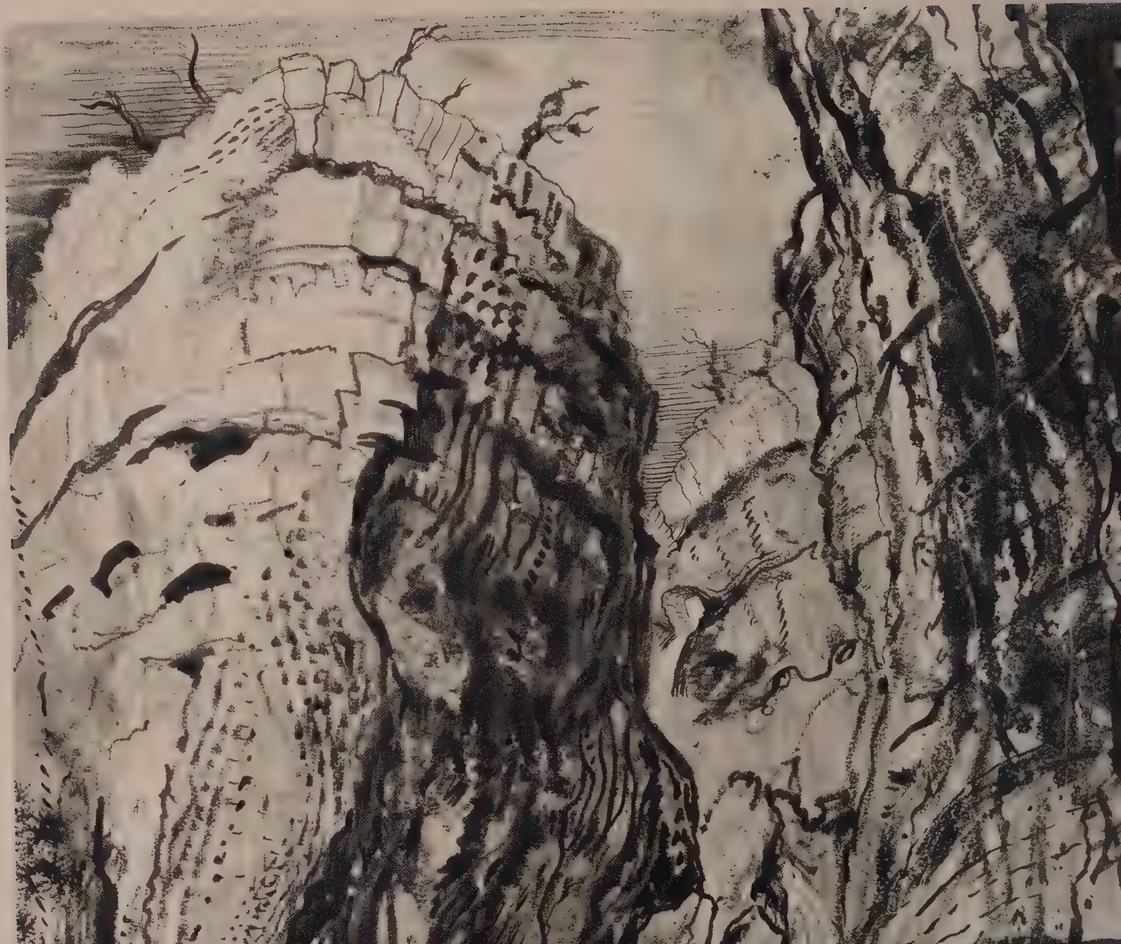


Easegill Kirk (*above*). The stream bed is dry except in times of flood, when water churns over rocks and cascades through a sequence of small limestone canyons. Entrance to Yordas Cave (*below*). The 'black Yordas' of Wordsworth's poem is in a fir wood in Kingsdale. It contains curious stalactites and a waterfall





Eathercote Cave. The most surprising of the roofless limestone caverns in the neighbourhood of Ingle-
n and Settle. Here a cascade plunges into a dark cavern. Turner, W. Westall, and other painters visited
n the nineteenth century, as well as many tourists in search of the 'picturesque' and the 'sublime'



GORDALE SCAR. A chasm with a waterfall on the course of the geological formation known as 'Craven Fault.' Gordale, and its neighbour Malham Cove, have been famous since the earl days of sightseeing tourists. James Ward, R.A., did a painting of it that now hangs in the Tate Gall

The following are some notes taken on a recent visit:

To Yordas Cave. Out of Dentdale southwards, into Deepdale. The sun warm. Bright green fields dipped to the left, climbing the lower slopes of Whernside beyond. Hay scent delicious. In the hedges, meadowsweet, purple wild geranium and very pale blue wild Canterbury bells—almost as large as garden ones but the bells not so fat; more elongated and so more elegant. On the right a waterfall among trees, with a divided fall and a deep brown pool, placid except where the fall frothed into it. Mounting slowly, passed a ruined farm with gold and ochre lichened stone walls. Water sounded everywhere. Little heather. Coarse grass and bent. Road steeper and rougher towards the top, from where, far ahead, the flat top of Ingleborough was prominent: clouds driving faster and darker up above Kingsdale, until Ingleborough was blotted, and then the nearer hills, and finally the neighbouring dark mass of Whernside. Heavy rain. Road descended, still southwards, Long Gill pouring over its rough bed on the left, foaming and beer-coloured. At the bottom of the hill, at the head of Kingsdale, a sodden deserted tent on a grass patch by the roadside. On the right a wood, horseshoe shaped, outlined by great firs and with clustered shrubs in the centre—Yordas Wood. High in the wood a waterfall tumbled, disappearing into the hillside at its base. Yordas cave is in a defile in the middle of the wood. The air warm outside, but up the steps from the cave entrance a chill wind came, and from the steps a churning roar sounded from the cave recesses. The cave flooded; but a high roof dimly visible. There is no passage into the inner chamber at flood times, so the illustrations of William Westall (1816), Wordsworth's description in *The Prelude*, and these words in the modern guide-book had to satisfy: "A rift in the rock at the far end allows a glimpse—of course by candlelight—into a strange, apparently circular cavity, in which a vigorous cataract, of unknown height and volume, plunges down incessantly in profound and impenetrable darkness".

To Weathercote and Gatekirk Caves. Over the pass into Kingsdale again. Little water in Long Gill after a calm, dry night. The nibbled sides of the valley scored by violent outcrops of limestone, sullen white in the sun. These scars are like stone palisades, anything from two to thirty feet high, but of uniform height in each particular scar, taking a serpentine but regular course round the breasts and headlands of the hills. On a brilliant day the landscape is almost drained of colour; the limestone is grey-white, grass grey-green, the blown, dry-looking trees greyish black. Weathercote and Gatekirk caves are in the cross-valley to the north of Ingleborough mountain. Weathercote in a patch of park-like landscape; in fact, in an enclosed recess of a private garden, behind a locked gate. The cavern roofless, the cascade roaring among dark wet rocks into a gloomy hole. Mist rising, and a rainbow in the mist. Steps descend through a natural arch to the bottom of the fall. Ivy, yews and sycamore are rooted in crevices above. The whole less remote than Turner and Westall made it seem from their drawings, but as romantic.

The river that waters this valley is the Greta—not Cotman's Greta by Barnard Castle, but a westward-flowing tributary of the Lune. East of Weathercote it flows quietly through hayfields, themselves threaded by stone walls and dominated by the odd, dark shape of Ingleborough. At one point the stream enters a rock-strewn, flowered copse, and in a hidden corner of this is Gatekirk cave. A tributary of the river flows out of the cave mouth, and by wading into the cave beneath the wide-arched limestone roof a spectacular cavern is gained, lighted by a passage on a higher level. The cavernous light shows spiky rocks, and looking out of the cave's two mouths, the grass that laps up to them and the dangling shrubs are in dazzling daylight.

Over Dent Crag to Easegill. "A remarkable valley with a number of winding caverns" (guide-book). On the lower grounds lavish flowers, especially harebell, and a grassy, orchard-like nutgrove. Over the mountain on the Lancashire-Westmorland border, the shallow valley-beginnings evident, with shouldered banks at the foot of long, dark Gragareth mountain. The hilly banks folding in here and there so as to obscure the view. Sheep, bracken, brilliant yellow fungus on the sheep-bitten slopes. Suddenly, after an hour's walk, the valley's character altered. The stream descended a narrow gorge. At the approach to the gorge a natural gargoyle stretched its bird-man form out over the water, and hollows and puddles and larger pools were scooped out of the limestone. There followed on the stream's course a series of roofless caverns, with small waterfalls dropping into dark pools, the stream-bed between these caverns, and often in them, being dry. The falls overhung with rowans and ash, nut trees and coarse grass. The stones in the dry stream-bed of great beauty; with one side flat and the other rounded they are curded and marbled cream, pink and slate-colour, or grey and green, or orange and brown-grey. Lower down the valley still, the caverns are deeper and bolder, and at a sudden twist in the stream—Easegill Kirk—the gorge becomes profound and narrow, the rock shapes fantastic, and subsidiary caverns wind into the hillside and into darkness through the gorge sides. In the near-silence, just broken by the dropping of water, it is possible to imagine the sound of mumbling human voices and easy to understand Wordsworth's

> . . . Rocks that muttered close upon our ears,
> Black drizzling crags that spake by the way-side.

Below Easegill Kirk the stream becomes a river, and flows into a pastoral valley of great beauty that opens into the quiet Lune plain by Leck, towards Kirkby Lonsdale.

Back up the valley in the late afternoon, by the dwindling stream, heraldic cloud shadows moved by a slow wind across the nearer hills; pockets of dark shadow on the further mountain slopes.

Malham Cove and Gordale Scar. From Hellifield Junction, by a winding road through a gentle Yorkshire landscape to Ayrton and Kirkby Malham — like Cotswold villages, though harsher and not so neat. The Craven Fault, described by a Victorian geologist as "one of the most magnificent dislocations in England", backs them to the north. Malham Cove is a mysterious stone amphitheatre, its cliffs rising 300 feet from tumbled green fields, a stream flowing from the base. Streaked with dark water stains, holding small rowan trees in its crevices. Orange and pink and pale grey, it reflects the light of the temporary sky. The tea-house and the peace-time char-à-banc capitalize the mystery.

Gordale Scar has excited travellers since the earliest days of travel for the sake of travel. Lord Torrington found the whole district "black and frightful". Thomas Huntley (1786), in the days before all the words for the proper description of scenery were used up, called Gordale a "stupendous pavilion of sable rock" (meaning by 'sable' dusky or dread, for it is anything but black). Gray in his Journal for 1796 says: "The gloomy uncomfortable day well suited the savage aspect of the place, and made it still more formidable: I stayed there, not without shuddering, a quarter of an hour, and thought my trouble richly repaid, for the impression will last with life". Wordsworth—reminded of it by the sight of William Westall's engravings of Yorkshire scenery—thought the proper times to visit it were

> At early dawn, or rather when the air
> Glimmers with fading light, and shadowy Eve
> Is busiest to confer and to bereave.

We have lost the art of being terrified by Gordale, as John Hutton was terrified, or imagined he was, in 1780. "The idea for personal safety excited some awful sensations accompanied with a tremor. . . . We stood too far under its margin to be affected by any crumbled descending fragment, and a very small one would have crushed us to atoms, if it had fallen upon us; yet in spite of reason and judgment, the same unpleasing sensations of terror ran coldly through our veins, which we should have felt if we had looked down, though secure, from its lofty top. Nothing however fell upon us but a few large drops, which sweat from out its horrid prominent front." Today, no terror. Larking hikers plug the stream with stones, feeling at home in the theatrical scenery. Voices echo oddly among the close cliffs. The large drops, that still descend from the sweating heights, begin to mingle with a summer afternoon drizzle. The low clouds dredge the last drops of colour from the pale grass and rock. The waterfall goes blasting on.

Ribblesdale and Alum Pot. The railway from Skipton to Carlisle was constructed in 1875. It bisects this wild fell region, and its building caused much local excitement. Murray's Guide (1882 edition) is excited by it, in spite of the dry statements: "The cutting (near Blea Moor Tunnel, under Whernside) is chiefly through millstone grit and black marble. At 400 yards from the south end of the tunnel the rails are 1500 ft. above the sea; with 500 ft. of mountain overhead. . . . Presently the train emerges at the head of the Dent Valley, and passes over the Dent Head Viaduct, 200 yards long with ten semicircular arches rising 100 ft. above the road below." From Skipton up Ribblesdale to Ribblehead, this railway was proud to pass within range of the famous caverns and pot-holes, and to this day Bradshaw's time-table gives a marginal reference against the entry for Ribblehead: "Station for Weathercote Cave". Other attractions are (on Penyghent, to the

Ruined farm, Rowantree. In Grisedale, an upland valley in the fell country, are some derelict farmhouses among hayfields. The dereliction here is accounted for by their remoteness, and the difficulty of communication, for roads are scarce, and tracks poor and boggy

east) Hunt Pot and Hull Pot, with streams pounding into black holes, and Douk Gill Scar, a miniature Malham among trees; and (on the slopes of Ingleborough to the west) Alum Pot and Gaping Ghyll Hole, which conform to type, and several long, explorable caverns including the White Scar Caverns towards Ingleton. These were discovered less than twenty years ago and have miles of underground water-courses, an underground lake, and a Cheddar-like exhibition of stalactites named in the old tradition: the whole lighted by electricity and suitable for conducted tour.

Selside is a hamlet beside the railway, between Ingleborough and Penyghent. Stone-built and pretty, with mossed roofs and flights of lichened steps to upper barn doors.

The road to Alum Pot a grass track between stone walls. Across a stream, through gates and out onto the barren flank of Ingleborough. Few trees, but a wind-blown clump indicated the sight of the pot with its underground water-channels. The great black gulf fenced against sheep round its rim, ash trees leaning and coarse grass waving over the edge. The cleft shaped like the opening of an arum lily. The darkness melted up towards the light through steam-like, moving moisture. Dimly visible and less dimly heard, the orthodox waterfall poured from a stage far down to a stage even further down: to a bottom that was still not the bottom. Alum Pot has an innocent air, though it is the scene of unnatural deaths. Unlike Hardraw Force in Wensleydale, where in peace time colliery bands play to thousands in a band-stand built in front of the waterfall, and where torn posters quote a certain Professor Smith's remark that this is "Nature's own concert hall"—unlike Hardraw and other beauty spots, where grass and trees and water seem dead, killed by the half-looks of a million sightseers, Alum Pot is still unsophisticated in a sheep-trodden landscape. Above it on the mountain slope are flat serrated table-lands of outcropped rock like a gigantic frozen thaw, or like a bleached and long-scrubbed kitchen table-top, much magnified.

Back to Selside and the railway; the grey whaleback of Penyghent ahead.

Sea Power and National Fortunes

IV. From the Napoleonic Wars to 1918

by ADMIRAL SIR HERBERT RICHMOND, K.C.B.

After the defeat of Napoleon, Britain maintained her ascendancy at sea throughout the world for a century. In this fourth article of our series Admiral Sir Herbert Richmond describes how that power was used, the changes in its technical instruments, and the developing rivalry of other states which helped to precipitate the war of 1914–18

SEA power, as Dr Williamson pointed out in the first of these articles, is a compound of fighting instruments at sea, of bases and positions, and of a merchant shipping and a shipbuilding industry. These three constituents may roughly be compared to the legs of a three-legged stool: take one away and the seat will no longer be secure and stable. The first leg—fighting strength—is not an absolute quality; it is relative. Strength, as Charles II told his Parliament in 1677, is a comparative term. Hence, when, after the Napoleonic wars, all Europe was weak at sea, Britain, though her fleet was reduced much below that with which she had ended the war in 1815, was still 'strong'. That condition, however, depended upon the activity of other Powers in restoring their navies, and in this matter France was not inactive. Though she had been the defeated Power in 1815, she had not abandoned her ambitions to dictate the course of affairs in other countries. Only eight years after Waterloo King Louis XVIII intervened in the internal affairs of Spain in order "to preserve the Spanish throne for a descendant of Henri IV"—the infamous Ferdinand VII—and this intervention contained the germs of an old danger to Britain: the creation of a Franco-Spanish bloc whose combined navies might once again be brought into competition with that of this country. The attitude of Great Britain was affected by the repercussions this might have upon her own security.

There were, indeed, two aspects of sea power which played a part in the British view of the situation arising out of the Spanish Revolution and French intervention. It was British sea power which afforded the shield to the revolt of the Spanish-American colonies; it was her own dependence on 'positions' which made Britain solicitous concerning the affairs of the Peninsula. While Canning in 1823 spoke of defending the independence of an ally—Portugal—Palmerston in 1827, speaking with his characteristic bluntness, put the matter in terms of practical sea strategy. "Only fancy for a moment Portugal forming a part of Spain, and Spain led away by France into war with England; and what would be our naval condition with all the ports from Calais to Marseilles hostile to us—St Malo, Cherbourg, Brest, Rochefort, Coruna, Vigo, the Tagus, Cadiz, Carthagena, Port Mahon, Toulon—and with nothing between us and Malta but Gibraltar?" We of today, who see what it means to have the ports of France, the Low Countries, Denmark and Norway in enemy hands, and used as bases for his surface ships, submarines and aircraft, can endorse Palmerston's solicitude for 'positions' as an element in sea power.

While there was this threat in the west of Europe, affairs in the Near East were also affecting, and being affected by, the needs of sea power. Sea power was the principal means whereby the liberation of Greece was achieved. Without the opposition of the allied navies the Turkish armies from Egypt would have been able to cross the Mediterranean and devastate the Morea. The Duke of Wellington had said, at an earlier stage of the situation, that it was we who would decide the fate of that war. Navarino did so decide it.

But while Great Britain thus opposed the Porte in its attempt to crush Greek liberty, British interests required the preservation of Turkey from the partition that threatened her. The reasons were fourfold: British trade in the Levant, the rising possibilities of trade with the East by way of Egypt and the Red Sea, the Russian expansion into Asia with its effect on the British position in India, and the rise of Mehemet Ali with the encouragement of France.

All of these were related to sea power. When Pitt in his day had said that the maintenance of the Turkish Empire was a British interest he was thinking of the defence of India. A Russian fleet in the Mediterranean, acting from an impregnable base in the Dardanelles, threatened the waters of the Levant and the route overland to Suez; and that threat, he saw, would become the more acute if there should be a Franco-Russian alliance; the alliance which was to give rise to so much hard thinking in the later years of the 19th century.

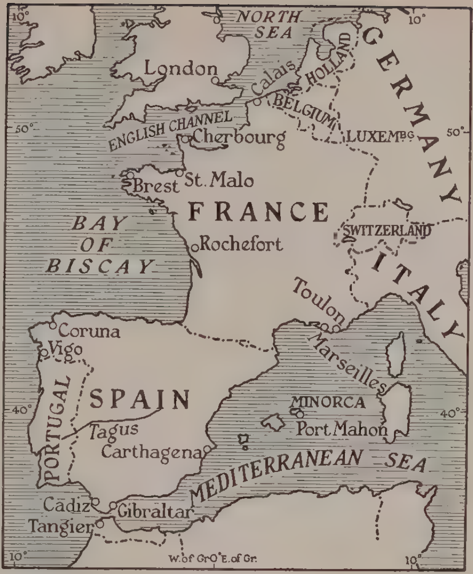
One of the burning factors in the 'Straits Question' was the relative disadvantages of a Russian fleet being able to enter the Mediterranean and of a British fleet being unable to enter the Black Sea. If the Straits were closed by Turkey, the danger of a Russian fleet in the Mediterranean would not exist in peace; while in war with Russia, if Turkey were Britain's ally as she might be expected to be, a British fleet could pass into the Black Sea. Thus policy in the Straits was governed primarily by the influence of positions on sea power.

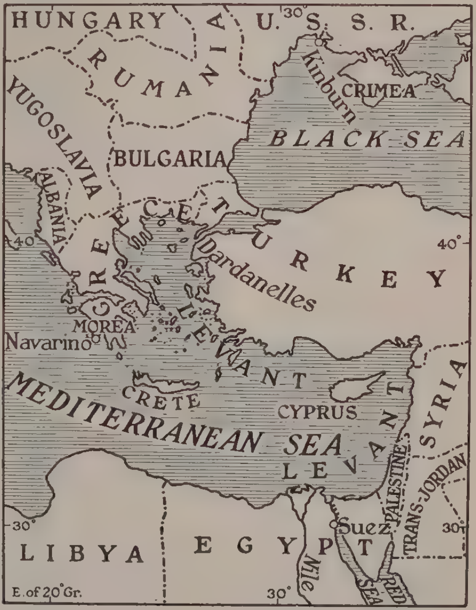
Sea power came to the aid of Turkey when she was threatened with dismemberment by Mehemet Ali in 1840; it enabled the allied armies to land in the Crimea in 1854; it guarded the country against the possible counterstroke of invasion of Britain from the North by appearing in the Baltic, where it also effected a diversion of Russian troops from the southern theatre in the Crimea.

The Russian war saw the beginnings of the revolution in the fighting instruments of naval warfare which has continued ever since and has profoundly affected the British Empire.

The mine made its appearance in the shallow waters of the Baltic where it hampered the freedom of the fleets; gunboats with heavy guns imposed limitations on the inshore operations, though this was not a new phenomenon, for galleys had done the same in the 18th century; armoured vessels were built to attack the shore batteries at Kinburn.

The iron ship then began to take her place in the navy in spite of opposition. A dockyard official exclaimed, "Don't talk to me about ships of iron—it's contrary to nature," and a naval captain said, "I think iron very inferior to wood for warlike purposes . . . there is no iron vessel that can be built to resist shot unless it be of such a weight that it will not float."





Stanford, London

But the iron ship came. France took the

lead, quickly followed by Britain. Naval competition ensued and Anglo-French relations almost inevitably deteriorated in spite of Napoleon III's frank admission that the naval needs of France were not equal to those of Britain.

The development of the naval base at Cherbourg, the building of a great French ironclad navy, and the trend of French naval policy in the Mediterranean, were events which could not be disregarded by a country whose fate lies upon and over the sea. "Peace and good understanding between England and France," said Palmerston in 1864, "are most likely to be permanent when France has no naval superiority over England." French acquisitions of territory in Africa were another significant factor. "The standing policy of France," he said, "is to make the Mediterranean a French lake, and they steadily pursue it on every favourable occasion."

To maintain a superiority in ships, essential though that was, was not enough. It would render possible the ejection of the French from the positions they had seized, but only by efforts costly in men and money, "therefore prevention is better than cure" and the policy of infiltration should be nipped in the bud. Opposition to French encroachments in the African Mediterranean countries were thus an article of British policy, arising directly out of the needs of sea power and security.

While positions thus played so important a part in the exercise of sea power, Law played another. 'International Law', so-called, had long recognized the existence of certain 'rights' of which the most outstanding were those of blockade, of the capture of shipping and of goods, and of declaring 'contraband' articles which affected the power of an enemy to wage war: but interpretations of these rights differed. Speaking broadly, a maritime Power sought to cripple its opponent by cutting off supplies from oversea, a continental Power sought to reduce the possibility of being so deprived of its needs, and a neutral Power to continue to conduct the largest possible volume of a trade which became increasingly profitable in war: and those same Powers who, as neutrals, most strenuously opposed the imposition of obstacles to their commerce, were usually to be found, when allied in war to the maritime Power, in strong support of the very measures they had opposed and condemned. So do circumstances affect the point of view.

Great Britain, from the time of Elizabeth onwards, had consistently upheld the right of capture at sea in spite of the opposition, sometimes the armed opposition, of those who had goods they wished to sell and ships in which to carry them to their markets.

The first inroad into these 'maritime rights' was made after the Russian War of 1854–5. An attempt to abolish them had previously been made at the Congress of Vienna by those very Powers who had owed their freedom to British sea power, but this demand had been categorically rejected by Castlereagh. "Great Britain," he then wrote, "may be driven out of a conference but not out of her Maritime Rights." Nevertheless Great Britain surrendered some of those rights after the Russian War, in particular that of the capture of enemy goods on board neutral merchant ships, in the belief, as expressed by Lord Clarendon, that "to maintain the ancient doctrine would bring all mankind against us".

This abrogation was characterized by Lord Salisbury in 1871 as a "reckless Utopianism". The fleet, he said, which had been "a powerful instrument in hampering and ultimately in subduing Napoleon because of its power of exercising a general blockade and searching neutral ships for enemy goods", was now shorn of its power, and "valuable as it is for preventing an invasion of these shores is almost useless for any other purpose".

Further inroads into the exercise of British sea power were made in the Declaration of London which, *inter alia*, attempted to divide goods into three categories of contraband—absolute, conditional and wholly free. The artificial, and indeed fictitious, character of this division is to be seen in the inclusion among the 'wholly free' goods of aircraft and of the metallic ores from which the weapons of war are made; its inapplicability to the hard facts of war was quickly disclosed when the all-embracing nature of the demands of modern war for raw materials was experienced in practice. Though ratification of the Declaration was refused by the House of Lords, an impression remained that it would govern British conduct in war. The limitation which it imposed on the action of Britain's sea power, joined to those imposed by its predecessor of 1856, were to prove highly unfortunate. The intending German aggressor was relieved of the spectre that his needs in oversea supplies would be interrupted by the British navy. The weapon that had struck Napoleon was now so blunted as to be practically innocuous, and he could plan accordingly. Those limitations, in short, were a distinct encouragement to the aggressive State, Germany.

Law and agreements were not alone in hamstringing British sea power in the latter part of the 19th century. The progress of scientific invention was a powerful factor. As the mine and the heavily armed gunboat had hampered the action of the fleet in the Baltic in the Russian War, so other developments were to add to the obstacles affecting the use of a navy. The first and most far-reaching was the locomotive torpedo. After its appearance the old and effective strategy of blockade conducted by strong forces cruising in the offing of an enemy port was no longer practicable at night, owing to the danger of attack from the small and swift torpedo boat. In harbour, ships could be safe only in anchorages enclosed by obstacles —booms, breakwaters and mine-fields—and defended by light quick-firing guns, with the added precaution of patrolling craft in the approaches. Obstacles, guns and fighting craft were then the defence against the torpedo boat's attack, as they are today against the new type of attack from the air in the form of balloons, anti-aircraft artillery and fighter aircraft. At sea, light gun-armed craft—gunboats later transformed into 'destroyers'—were developed for the defence of fleets and commerce in the Narrow Seas.

With the coming of the submarine a still further restriction of the freedom of the great surface fighting ship was introduced, and a new weapon appeared for the attack on commerce. Torpedo attack on merchant shipping, as relentless for either crews or passengers as that of the German submarine command, had been advocated by a French school of thought in the '80's which found its mouthpiece in Admiral Aube. While the surface torpedo boat had forced away blockaders by night, the submarine rendered cruising anywhere within its striking range dangerous during day as well. Safety at sea could now only be obtained by the use of numerous small flotilla craft acting as screens to the big ships, and by steaming at so high a speed as quickly to exhaust the fuel of the small craft. It was then no longer possible to keep fleets and squadrons of large ships constantly at sea in readiness for any move by the enemy. They must lie in harbour with steam up, protected against attack by additional obstructions, this time under water in the form of nets and mines, against the submarine.

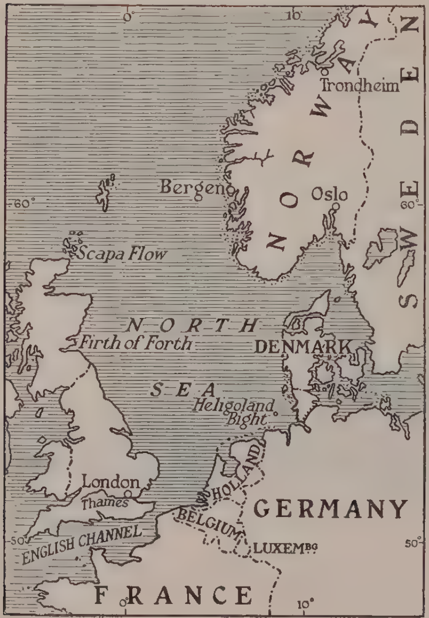
The powers of the new weapon were greatly underrated in this country. Inadequate precautions were taken, both to guard ships in motion at sea and the anchorages—which they would need to use as bases. Neither Scapa Flow, the Firth of Forth nor the Thames anchorages were protected. The result was

Imperial War Museum

The battleship is the strongest unit of a fleet, irrespective of her tonnage. The Dreadnought, *built in 1906, outclassed all earlier 'battleships', rendering them unfit to lie in the line of battle against her: that is, obsolete for the purposes for which they had been built*

Imperial War Museum

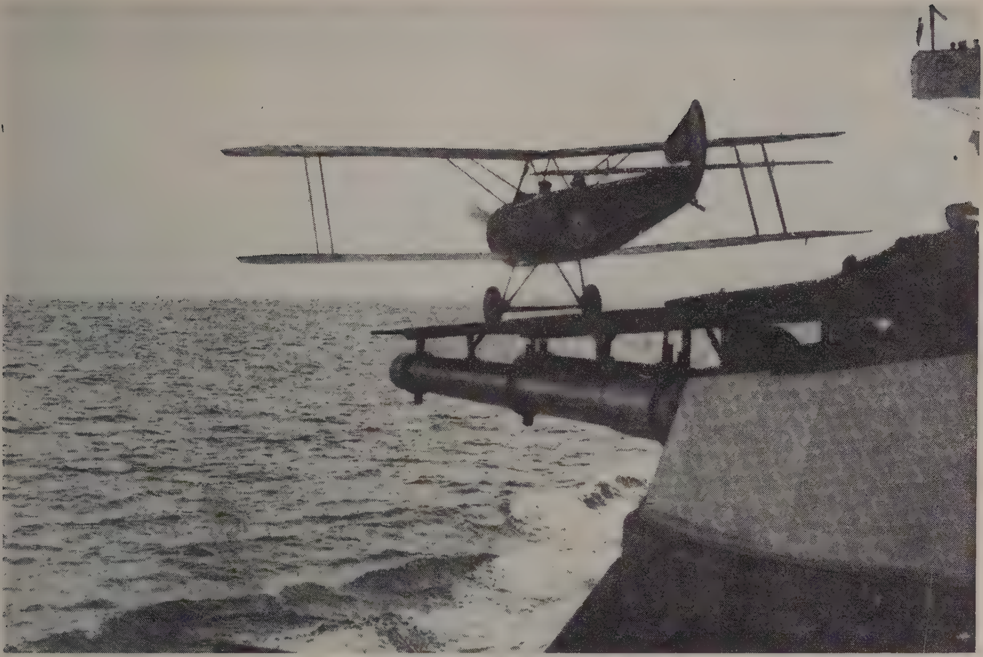
The first torpedo boat 'T.B.1', built in 1877, of 34 tons displacement and 21 knots speed. Some far-seeing men realized that the torpedo would revolutionize naval warfare. In 1885 fast gunboats, developing in 1893 into the 'destroyer', were designed to meet the growing danger



Stanford, London

that many ships were lost—the *Hogue*, *Cressy*, *Aboukir*, *Pathfinder*, *Hawke*, *Formidable* and *Audacious*—and, at a critical time during the passage of the army to France, the fleet was not in a position to protect the transports or to prevent the blocking of the French ports of disembarkation, having had to leave Scapa Flow owing to its insecurity against submarine attack.

The German expectations of a 'brief and joyous war' in which British sea power, emasculated by the surrender of maritime rights, would be incapable of hampering the military efforts by cutting off supplies of munitions or of bringing pressure on the lives of the people, were disappointed. Germany's own acts in direct transgression of international law opened the way for acts of reprisal, and at the same time steps were taken, by the means of a series of Orders in Council, to reduce the volume of goods, from food to munitions, which were reaching Germany by way of the neutral States in the North of Europe. These steps had to be taken with care. Protests by neutrals, on the score of illegality, were numerous. Fortunately it



Imperial War Museum

The first ship-borne planes, 'Sopwith 1½ strutters', were reconnaissance craft carried in battleships and launched from contrivances erected on the turrets. Later they were armed with torpedoes for attacking ships and depth charges for submarines. Today aircraft, both ship-borne and shore-based, are integral units of a modern navy

was possible to quote many precedents set by judgments of the Prize Courts of the United States in the War of Secession, and, though there was at times acute tension, the pressure on Germany of isolation was steadily increased.

Though what was called 'the Blockade' was still, in the winter of 1916, very far from cutting off all that Germany needed, it was then imposing considerable hardships and some military disabilities. Germany then called in the submarine to bring victory to her arms by unrestricted warfare on all shipping. It was well realized in Berlin that this would probably provoke the United States to war, but it was confidently believed by the German staff that a decision would be obtained in six months through the loss of shipping and inability to feed the people of this country, as it was calculated that the unpreparedness of America would keep her out of the struggle during that time.

Sea power was now being used against Great Britain. A new instrument of sea warfare had swum into the ocean which, though not capable of clearing the way for the passage of its own country's troops and trade across the sea, could apparently bar the way to the passage of those of its enemy. It was a momentous question whether an answer could be found in time, or at all, to this destructive form of attack.

The matter hung in the balance for months; thousands of tons of British ships were sent to the bottom by the submarines. But the answer was found. Convoy, a method used from the earliest times but whose applicability to modern conditions had been denied for some years, was reintroduced, and, by the use of some hundreds of destroyers and other light craft of the Allied nations, the submarine attack was broken.

Attack on trade had not been confined to the submarine. German cruisers and armed merchantmen had also taken part, but had been disposed of, or their efforts checked, by various measures of convoy and cruising.

In German naval circles it was felt that the failure of the cruiser war was due, in a large part, to the lack of bases in the outer seas. Hence, in the heyday of success during 1916, when a German victory appeared certain in

Fox Photos

The convoying of merchantmen, oldest form of protection, was resumed in the 1914–18 war after opposition. The assembled shipping is protected by destroyers, armed trawlers, sloops, corvettes and aircraft. The non-rigid aircraft was much used in the last war, her height enabling submarines to be sighted at a distance. Detecting apparatus and the depth charge were the principal means, in association with the convoy system, by which the submarine menace was mastered in 1918

Imperial War Museum

Berlin, the intention of establishing naval bases on both coasts of Africa, well defended by strong garrisons, was the theme of many German naval writers. With such positions German cruisers and submarines would be able in a future war to operate on the Atlantic and Indian trade routes, secure of supplies with ports of refuge and repair at their disposal. Positions, once more, appear as integral elements in sea power. In addition, attention was directed by German writers to the disability under which the German navy suffered owing to being confined within the 'Wet Triangle' of the Heligoland Bight and the importance of acquiring harbours in Norway was freely asserted. Thus it was not only the treatment which Germany had applied to the native populations in her African colonies that was responsible for the Allied decision to deprive her of those possessions: it was also the use to which she intended to put those colonies in a future war. Nor was it British minelaying off Norway which caused the invasion of Norway in 1940. That invasion had been planned years before and had been actually on its way before the mines were laid.

Aircraft were still in an elementary stage of development in the war of 1914–18 though there was a large and efficient naval air service, and aircraft carriers had been built, and had taken part in some of the operations; but the main activities of aircraft at sea, both heavier and lighter than air, were in the anti-submarine work. A small number of British merchantmen, totalling less than 8000 tons, had been sunk by the enemy's aircraft. The possibilities of aircraft in naval warfare had, however, been indicated, but there was a failure to appreciate that they are the lineal descendants of a long series of new forms of fighting craft at sea, from the galley to the sailing-ship and steamship and submarine.

What had been the effects of sea power in 'World War Number One'?

In the sphere of defence it had secured Great Britain against invasion except in the minor form of aerial raids on some cities. It had guarded the Dominions and Colonies against attack from Germany and enabled armies to be sent to protect those that were in danger from their German neighbours in South, West and East Africa, and to deprive the enemy of those naval bases in Africa, China and the Pacific from which he could have developed an effective and costly attack on our sea communications. It enabled armies to be sent to the Near and Middle East sufficient to defend Egypt against Turko-German invasion, and consequently to preserve the route through the Mediterranean and the Red Sea to the East. It sustained the armies which ejected Turkey from Iraq and Syria, and so protected the oil supplies from those regions.

Though the problem of protecting trade against the submarine was solved less quickly than it should have been, and some eight million of tons of shipping were lost, it was effectively solved when the number of light craft needed was available, applied in a proper manner—convoy. A combination of cruising and convoy provided effective defence against the surface raiding ships of the enemy. The trade was thus maintained and military forces were sent where they were needed to defend territory.

In the sphere of offence, sea power afforded the opportunity of outflanking the long front of the enemy by way of the Dardanelles and of opening up communications with Russia whereby she would have been able to export her grain and receive the munitions of which, as early as the end of 1914, she was already in great need. That opportunity was missed for want of a sufficient appreciation of sea power, the possibilities it offers, and the need for its establishment as the strategical foundation of British warfare. Sea power enabled a great American army to join those of the Allies in France and take part in the offensive that broke the enemy's resistance after August 8, 1918.

Although those inroads had been made in the British maritime rights to which I have referred, it proved possible to restore them in a high measure and to cut off the supplies with which the enemy had maintained his resistance. This was mainly done by a logical extension of the meaning of the word 'contraband', a return, in other words, to its original sense of "goods which contribute to the enemy's war efforts". By stopping supplies of raw materials of military use, and of food and other goods which maintained the will of the population, it weakened the enemy armies and the powers of resistance of the enemy peoples, helping thereby to produce that discontent which, combined with military defeats, culminated in the Armistice of November 11, 1918.

George Borrow in Spain

by V. S. PRITCHETT

It is a rainy morning in Seville, one of the rare rainy mornings of southern Spain when the red soil looks like sodden chocolate. The year is 1839. Is the Spain of a hundred years ago very different from the Spain of today? In some ways, not very different. In 1839 a ghastly civil war was in its sixth year. A family quarrel between heirs to the throne had revived the old hostility of the loosely-knit provinces to one another and had become a fight between the chaotic partisans of Absolutism and Liberalism. At times, to the outsider, it will be hard to distinguish the reactionary from the liberal. The absence of railways leaves the towns more isolated, yet the roads of 1839 are as empty as the roads of today. Perhaps what the traveller will chiefly notice is that the naked electric light which gives a metallic hardness to the Spanish night is replaced by the softer smokier shadows of the oil flare.

As the rain falls an English Colonel from Gibraltar—the eternal English Colonel—is sitting in one of the courtyards of the Moorish Alcazar and he passes the time away by sketching, an occupation which so often soothed the English military breast in the 19th century. The whole English middle class seems to have sketched and painted in those days. The Colonel sketches away, but every now and then his eye goes to an outlandish figure who is also sheltering in the courtyard: a huge man well over six feet tall who wears a *zamarra* or sheepskin jacket with the wool turned outside. It is a native costume and even today, once in a while, the modern traveller would see it worn. The stranger looks like an old man, for his thick hair is white and his face is marked by suffering. Yet it is a young, healthy face, the cheeks are hairless, the complexion ruddy. Then the Colonel sees the eyes. They are the most extraordinary eyes he has ever seen: black, hard, brilliant and, as the saying is, piercing. The man might be a gypsy, an aristocrat, perhaps one of those fine-featured descendants of the Spanish Jews, the aristocracy of Jewry, who appear in the Mediterranean.

The Colonel is an indefatigable and curious traveller. He is not shy of picking up acquaintance. He goes up to the Unknown and tries some French: "Bonjour, monsieur, quel triste temps." The Unknown replies in perfect French. The Colonel is not satisfied. He begins to pump the Unknown discreetly. "But", writes Colonel Napier,

> I became more than ever in the dark about his nationality; I found he could speak English as fluently as French. I tried him on the Italian tack; again he was perfectly at home. He had a Greek servant, to whom he gave his orders in Romaïc. He conversed in good Castillian with mine host.

That was when they got back to the inn. How good was the Colonel's ear? Later on we find the Unknown's accent described by the Spaniards as Russian, German and Catalan:

> He exchanged a German salutation with an Austrian Baron; and on my mentioning my morning visit to Triano [*sic*] which led to some remarks on the gypsies, and the probable place from whence they derived their origin, he expressed his belief that it was from Moultan and spoke . . . entirely freely, and with depth and acuteness on the affairs of the East, most of which part of the world he had visited.

At the inn the Colonel continued his inquiries and he spent some days in the Unknown's company. They went to see a gypsy family, a murderous-looking lot the Colonel thought, and there the Colonel had a further shock. The Unknown could speak the gypsy tongue and seemed to be welcomed as one of the tribe.

> "Where in the name of goodness did you pick up your acquaintance and the language of those extraordinary people?" the Colonel asked.
>
> "Some years ago, in Moultan," he replied.
>
> "And by what means do you possess such an apparent influence over them?"
>
> But the Unknown had already said more than he perhaps wished on the subject. He drily replied that he had more than once owed his life to the gypsies, and had reason to know them well.

So with a dark hint and on a rumour that he was a Russian spy with a false passport, George Borrow, agent of the Bible Society, passed out of the life of Colonel Napier, leaving as usual a legend behind him.

Borrow had never been in Moultan or the East. Again and again we meet this histrionic trait in the great travellers. Like the famous spies, they have much of the actor and mystifier in them. Again and again they are, in a harmless way, liars. For some reason hidden in the story of their own natures, they have chosen to discard their real personality and, chameleon-like, to take on protective colouring. They assume personalities by which they can more conveniently insinuate themselves into the lives and habits of foreign people. Something—one does not know what it was—separated Borrow from society; something, from his earliest years, made him unadaptable; something forced him to live, as most of us do not live, in a state of continual self-dramatization and rhetorical assertion. Something turned the hair of this huge healthy man prematurely white and exposed him to attacks of 'the horrors'—that anxiety, screwed up to the point of hysteria, which attacked Dr Johnson also. Borrow's power of raising and dramatizing imaginary selves seems to have been a device for escaping from a personal secret.

Borrow first crossed the Portuguese frontier into Spain in the year 1835. He crossed at a ford in the River Acaia near Badajoz, a city twice bathed in blood in just over a century. Badajoz is one of those flat Spanish towns which look like a heap of brown earthenware dishes raked together on the hedgeless uplands of Estremadura or Castile. It is always dramatic to cross a frontier, even though the frontier is only a brook.

"A man", writes Borrow, seizing the moment for rhetoric, "who was standing on the side directed me to the ford in the squeaking dialect of Portugal; but whilst I was yet splashing through the water, a voice from the other bank hailed me, in the magnificent language of Spain." Naturally the Spanish greeting came from a beggar. And Borrow goes on: "And having flung the beggar a small piece of silver I cried in ecstasy, 'Santiago y cierra España!' and scoured on my way"—to receive the greeting of the glum gendarmerie of Badajoz.

One imagines the foreign visitor crying out, "St George for Merrie England" before he marches to the passport queue at Dover. That was Borrow's entrance. Yet it was correct. It struck the right dramatic note; instinctively he perceived the quality of a new environment. There is little native colour in Borrow's narrative—not as much as the romantic, cultivated Théophile Gautier

Bill Brandt

Born to beg, to steal, to sing and to dance these descendants of the gypsies whom Borrow ended by hating will grow up to discover how little a man needs to support life

put into his observations five years later—but Borrow never misses the drama which the Spaniard imports into casual acquaintance. There was even something Spanish about his mission: he went to "save souls", for English liberals of the 19th century were always under the delusion that Spain was ripe for throwing over the Roman Catholic faith. The Spain Borrow saw was not the Spain seen by the Romantic movement; it was a picturesque country, perhaps, but also a monotonous, sinister and savage one. Borrow's earliest journey was made in the winter and the Romantic travellers have never really admitted that the climate north of the Sierra Morena was, as the proverb says, "Nine months of winter and three of hell". Very different are Borrow's letters written in the depressing room he had off the Puerta del Sol in Madrid, from the resonant pages of *The Bible in Spain*.

"I have suffered terribly from the frost and cold since I left Lisbon", he wrote to his mother (I quote from Seton Dearden's *The Gypsy Gentleman*); "two more miserable countries [than Spain and Portugal] I have never been in." Madrid is a "hive of thieves". The cold wind from the Guadarrama curls one up like a leaf. He never walks abroad at night because the people are out "in hundreds" murdering one another! His landlady's son did, in fact, try to murder Quesada, the commandant of the city, and Borrow was sitting in a café in the Alcalà, when later on Quesada *was* murdered and the gypsies brought in his bloody hand and stirred their coffee with it. The custom of Spanish assassins was correctly noted. Whether Borrow himself saw the hand, the frank Borrovian must always doubt.

Borrow returned to England but was back in Spain the following year. This time he arrived at Cadiz and gradually made his way to Madrid, then on to Salamanca and Galicia. How could he move about while the country was at war? The answer is that it was a war of guerillas who achieved famous forced marches and murderous dashes into one part of the country or the other; but who seem always to have melted away. The Carlists hesitated before Madrid, Valladolid and Seville and these hesitations saved the cities. Borrow was in Seville when Cabrera, the bloody theological student who led one of the Carlist 'armies', was butchering in Cordoba, but by the time Borrow had got to Cordóba, a week or so later, Cabrera had gone. Borrow wrote that he slept in Cabrera's bed at an inn. The road to Madrid was unmolested. The real enemy was the cold and—though Borrow makes little mention of it—the poorness of the food.

To travel on horseback across Castile in December must have been a martyrdom. At Aranjuez, that kind oasis in the Castillian steppe, Borrow said he swallowed a couple of bottles of brandy and that they hardly warmed him. His travels were always on the western and poorest side of the country. He was never in Catalonia nor the more genial Mediterranean provinces. There were no railways. These were the days of the saddle horse, the donkey, the diligence or the escorted mail. A great deal is made by Borrow of the danger of robbery or assassination and there are certainly some close shaves. But he was in fact never robbed. He reports only rumours, and even the whistles and wild cries which he heard in the dreaded pass of the Sierra Morena, where the peasants now call to the crawling train, were only whistles and cries.

How much is one to believe in the danger of the Spanish roads? Richard Ford, a contemporary, said the stories of robbery had been greatly exaggerated. It is true that the mails went under escort; but that would be natural in times of peace as well as in times of civil war. Even when, like other travellers, he joined the mail procession, Borrow has to call the Spanish soldiers "murderous-looking ruffians". Though he saw the heads of executed bandits put up on poles by the roadside in Galicia and saw murderers garotted in Madrid, one has the suspicion that, like the newspaper correspondents, he always played up the theme of personal danger.

It is in the smaller, more casual observation of Spanish life that one notes a fidelity to the scene. There was the language of the people, for example. Borrow catches the Biblical or pastoral inflection. In the middle of the night at Villafranca, a face comes to the window and calls down to the travellers, "Trouble me not, the door is now shut and my children are with me in bed, I cannot arise to let you in." And he picks up the regional characters. The Galicians are still the domestic servants of Spain; they have still the reputation of being "clownish, simple and artful". The Andalusian, living with his family in one room of the hotel and sending out for the means to cook food, bears out his national reputation, not for frivolity and wit, but for suspicion and closeness about money. Another perennial problem of Spanish travel is noted when Borrow describes the difficulty of finding your way out of a small Spanish town once you are in the middle of it. It is impossible to distinguish between the main roads and alleys.

How different Borrow's Spain is from the Spain of the festive, misleading and amusing Gautier. The Frenchman goes as an intellectual tourist to consider works of art, to be amazed by curious customs, to see the comedy of foreign manners. He goes with educated if bizarre preconceptions. Borrow has no preconceptions beyond his patriotic religious antagonism. He hardly sees a work of art. He knows works of art are there—a Murillo, conforming one supposes to his once romantic view of the gypsies, catches his eye in Seville—but they are not his purpose. He is too unstable to see works of art serenely. Thus the cathedral of Santiago de Compostella impresses him, but he soon remembers that the prayers of Papists are unavailing. More tolerant in Seville—the south had a civilizing influence on the fanatic—he can bring himself to listen to sermons in the cathedral there. When one recalls that the Spaniards were the greatest builders in Europe after the Romans, there is something puerile in Borrow's rhetorical cry in Salamanca, "How glorious are its churches, how stupendous are its deserted convents. . . ." Big, meaningless words. No one dances in Borrow's Spain. There are bull-fighters, but there is no full-length picture of the bull-fight. He notices the beautiful women of Andalusia pass on the shady walks of Las Delicias, but as they are interested only in *amor*, Borrow has no further interest in them.

Certainly these women sing, but he does not write down their songs though the strange cadence of Spanish singing must be the thing that most haunts the passing traveller in the streets or on the road. How indifferent a chronicler Borrow is, how unlearned, how incurious. Very rarely does an assessment of a Spanish thing come from him, some ungrudged praise or estimate, and it is hard to guess what he knows and what he does not know. It is with a real surprise that one finds him remembering the *Ilustre Fregona* of Cervantes on the notorious beach of San Lucar or the picaresque story of Lazarillo de Tormes; for one has found in him the gusto and the drive but also the innate hostility of the uninstructed.

But against these criticisms must be put the fact that all the people he meets are alive and outside all the conventions of travel. They are baldly alive. Even Borrow's maddening

Paul Popper

George Borrow was an evangelist but not a teetotaller. He drank two bottles of brandy in Aranjuez to keep out the bitter cold of Castile. In Seville he must have argued his copies of the gospel into the hands of the close-fisted Andalusians as they drank their little glasses of sherry in a bar like this

stage gypsies live. Spain is a country of fantastic autobiographies and no one disappoints us. The contrabandist who rides out of Cordoba and shivers in the pass of the Sierra Morena lives in every page. So are the priests whose company Borrow enjoyed. Mendizabel, the Prime Minister, is unforgettable. You get scenes from Spanish daily life which have not been touched up to illustrate one of the hundred and one theories about Spain and the only art used in the composition is the normal stretching of a point in order to fill in the picture.

> The posada where I had put up was a good specimen of the old Spanish inn, being much the same as those described in the time of Philip the IIIrd or IVth. The rooms were many and large, floored with either brick or stone, generally with an alcove at the end in which stood a wretched feather bed. Behind the house was a court and in the rear of this a stable, full of horses, ponies, mules, machos and donkeys, for there was no lack of guests; who, however, for the most part slept in the stable with their caballeros, being either arrieros or small peddling merchants who travelled the country with coarse cloth or linen. Opposite to my room in the corridor lodged a wounded officer who had just arrived from San Sebastian, on a galled, broken-kneed pony; he was Estremenean and was returning to his own village to be cured. He was attended by these broken soldiers lamed or maimed and unfit for service: they told me that they were of the same village as his worship, and on that account he permitted them to travel with him. They slept amongst the litter, and throughout the day lounged about the house smoking paper cigars. I never saw them eating, though they frequently went to a dark cool corner where stood a bota or kind of water pitcher, which they held about six inches from their black, filmy lips, permitting the liquid to trickle down their throats. They said they had no pay and were quite destitute of money, so that *Su Merced*, the officer, occasionally gave

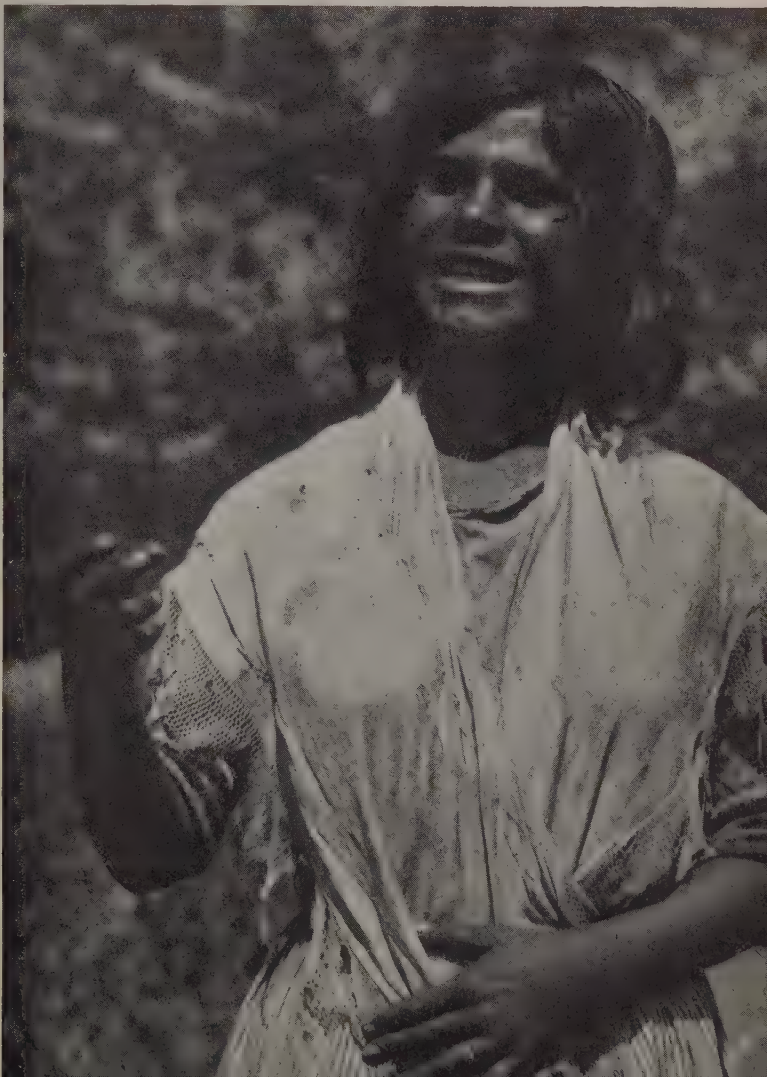
> them a piece of bread, but that he himself was poor and had only a few dollars. Brave guest for an inn, thought I; yet to the honour of Spain be it spoken, it is one of the few countries in Europe where poverty is never insulted nor looked upon with contempt. . . . I laugh at the bigotry and prejudices of Spain; I abhor the cruelty and ferocity which have cast a stain of eternal infamy on her history; but I will say for the Spaniards, that in their social intercourse no people in the world exhibit a juster feeling for what is due to the dignity of human nature, or better understand the behaviour which it behoves a man to adopt towards his fellow beings.

A hundred years later that passage still holds good. The inn is perhaps not the chief inn of Salamanca now but it is typical of the posada in the suburbs where men travelling with animals still go. The water-jar is still there. The broken soldiers are certainly there. The pedlars—they have probably come by train and are selling not coarse local clothes, but the textiles of Catalonia. The officer is no longer called *Su Merced*. In the Galician mountain the modern Borrow would certainly find himself advised to take a pony rather than a horse; on the Portuguese frontier he would be asked if he was smuggling jewels. The modern Bible seller and missionary finds himself treated with the same alternations of tolerance and exasperated repression as Borrow met.

But perhaps these resemblances seem stronger because, as I have said before, Borrow left so much of Spain out and put in so much of himself in its place. The self-portrait is astonishing. One sees a brave, boastful man, full of energy, full of effrontery, always acting a part, always in the centre of his rather dingy evangelical stage, perpetually haranguing the Spaniards about the infamy of their nation, and giving himself the airs of an ambassador. A scared man, a sardonic man, tricky and quarrelsome. The lack of scenes of pleasure in the book make it hard to believe that he was only thirty when he was in the country. He sounds twice the age, as old as Colonel Napier thought he was when he saw that head of white hair in the Alcazar.

"All the appearance of a sorceress! And is she not really one? She knows more about crabbed things and crabbed words than all the Errate [Gypsy people] between here and Catalonia": so Borrow in 'The Bible in Spain'

Bill Brandt



Field and Food in Northern Rhodesia

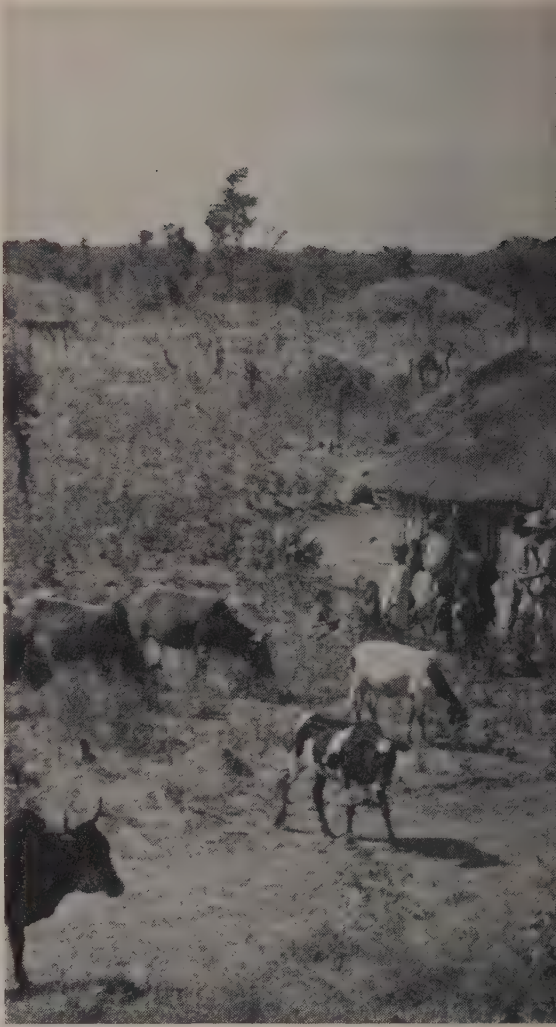
by DESMOND VESEY-FITZGERALD

Particular interest attaches to the traditional methods of agriculture described here by Mr Vesey-Fitzgerald, since in many parts of Africa they are gradually giving way to more modern procedure. In Northern Rhodesia officially-sponsored research in agricultural and veterinary matters, and the institution of agricultural tuition in tribal areas, have made great progress. Though modified by the war these schemes are still in operation

Throughout East Africa the scheme of cultivation is much the same, though details vary from place to place. The crops are grown in garden patches cleared for the purpose. After two or three harvests the fertility of the soil is absorbed and the garden patch is abandoned. Then a new patch is cleared and planted.

One result of this shifting method of cultivation is that the new garden is sometimes so far away that the old village is forsaken and a fresh one built elsewhere. Thus the whole conception of a permanent home with all that it implies is sacrificed to the appeasement of hunger.

The demands of the present day are more exacting than of old. The value of land is greater and the increasing population is confined to an area with fixed limits. But the quality of the land is getting poorer since the period of rest, which restores fertility, is shortening. At the same time the call on the land is increasing, for the present-day African has not only to feed himself and his family but also to satisfy the desire for clothing and trinkets, as well as meet taxes, by the sale of his produce. Then in many parts of Africa today the services of hospitals, schools and other modern institutions call for permanent centres of settlement. It is evident, therefore, that changing times will soon alter the African's old methods of food production.



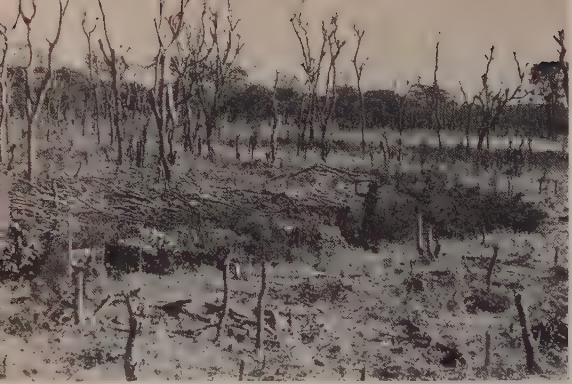
The village edge is always a place of special—

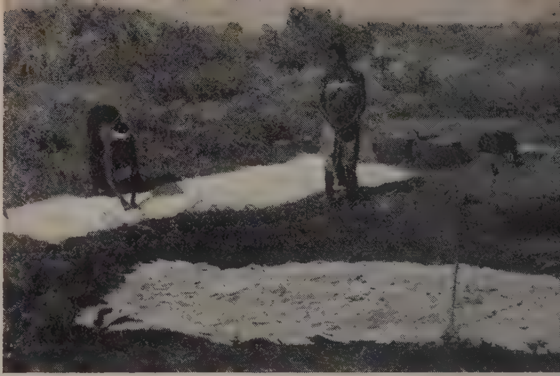
In most districts there is usually one staple crop which supplies the main bulk of the food consumed by the people. More often than not it is grain. Sorghum and the millets have been grown by the African since primitive times, but maize is a more recent introduction. This specialization has frequently led to famine. Drought, disease or an invasion of locusts may decimate the main crop, whereas if there is an alternative crop with different requirements, resistances or storage qualities, the disaster is more likely to be

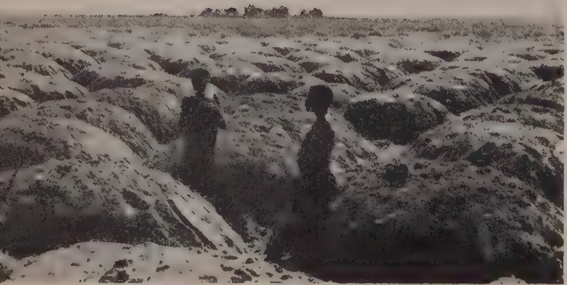
All photographs from the author

—fertility. Accumulations of rubbish, sweepings and the village herd all help to enrich this area and the crops grown are easy to tend and to protect from harm

avoided. Again, a decrease in soil fertility or extensive forest destruction may result in the failure of formerly successful crops. It happens, therefore, that even the conservative African cultivator is sometimes forced to change from one crop to another. An outstanding example of such a change is the widespread adoption of cassava as a staple crop. Cassava was unknown in Africa before the Portuguese brought plants from their South American colonies to those in East Africa. This plant provides an edible root which is immune from many of the agencies destructive to grain. Storms and rain may smash down the grain crop while the cassava root lies safely buried. Locusts and birds may eat the grain, but the root is safe. Drought during planting and growing may reduce the yield of grain, yet the perennial cassava remains unaffected. Weevils in the storage bin may turn grain into dry dust, but the cassava root is left, until required, in the soil. Grain crops are often successful only when grown on soil sterilized and enriched by







(Above) *Cassava roots contain prussic acid and are therefore peeled, soaked in water until the poison is neutralized and spread on mats to dry.* (Top left) *Lopped branches on the site of a new garden are left to dry until the rains begin.* (Middle) *Reaping the Eleusine or finger millet, the most important grain in the highlands of Northern Rhodesia.* (Bottom) *Women preparing cassava mounds on an island in Lake Bangweulu. Their village stands among the distant trees*

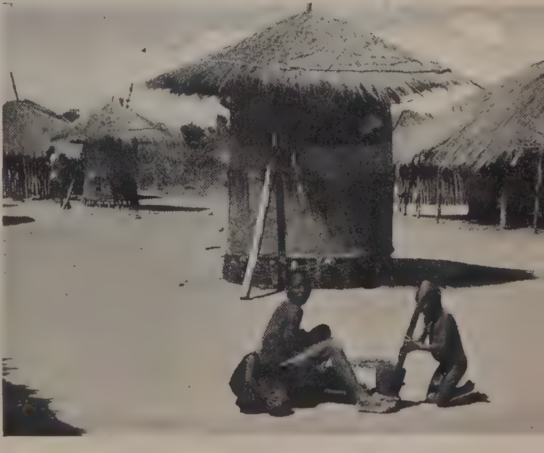
the burning of brushwood, but cassava thrives in places where the diminished forest growth no longer provides fuel for such a purpose. It is not to be wondered at, therefore, that cassava is now widely grown.

When African cultivators set to work they use considerable ceremonial ritual. First they select an area of forest for the site of the gardens. With their axes the men expose the ground to sunlight by cutting down brushwood and branches of the larger trees; the trunks present too great a task for their light tools. In high forest the material accumulated on the ground from the tree is considerable; but in lighter forest, such as covers much of East Africa, so little brushwood is obtained for burning that branches are cut from a much wider area and carried onto the new garden plot. As much as ten acres is sometimes cut to meet the requirements of a one-acre garden.

The women arrange the brushwood, which is allowed to dry until the advent of the rainy season. Then the whole accumulation of branches is set on fire and the soil is sterilized by the heat, weed-seeds are destroyed, the tilth is improved by the baking, and latent fertility is liberated by chemical reactions and enhanced by accumulations of ash.

On land prepared in this way the crop is sown at such a time that its growing period will coincide with the season of the greatest

(Above) *Women not only hoe the grain, harvest the crops and prepare the food, they also make the pots to cook in.* (Top right) *The results of their labour: a good harvest on sale in the market place.* (Middle) *Women gossip while in long troughs they pound the dry cassava roots into flour.* (Bottom) *Villages of grain-eating tribes are recognizable by the presence of round wattle and daub bins with thatched roofs, where the grain is stored. It is afterwards pounded in a mortar and eaten in the form of flour*



rainfall. There is much traditional knowledge at the disposal of the African which tells him exactly what variety of crop will be suited to the conditions in his garden. Barring calamities, the growth of the crop proceeds with the minimum of attention until it ripens.

During this time the men spend much of their time hunting or protecting the gardens from marauding animals. On the women rests the responsibility of tending the growing crop and finally of harvesting it. The ripe grain is carried in head-loads to the village compound, where it is stored; this store is a concrete assurance to the people of sustenance during the months before the next harvest.

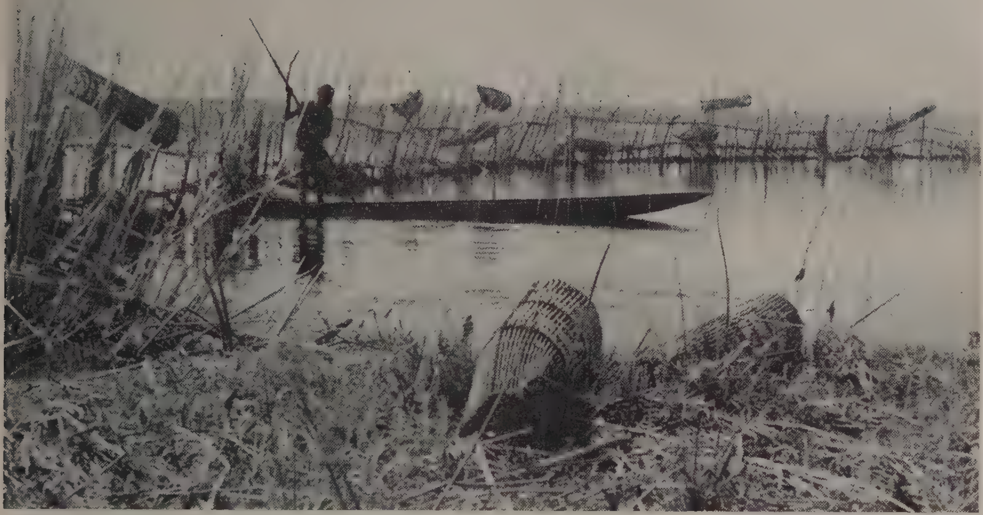
Diminishing forest may limit the benefits which 'the burn' is able to provide for the soil, and as a consequence the fertility which the man is unable to supply with his axe has to be made up by the woman with her hoe. The soil is dug and turned into mounds or ridges with the grass buried in the middle, where it rots and supplies humus. Small patches of bush alongside streams are also sought out, cleared and planted. A specially fertile area which is always available is the village margin. Here the village sweepings, refuse and waste are accumulated and the cattle kraal is situated. Besides the greater fertility of this area

In Northern Rhodesia the African helps himself from the common bowl; but men and women always feed separately

another advantage is the ease with which crops grown so near at hand can be tended and protected. The zone around the village is therefore hoed each year and planted not only with food crops but also with special plants which provide their owners with relishes, narcotics, poisons, drugs, fibres, utensils and the children with toys.

The anxieties and chances of field cultivation once passed, and the harvest safe in the village grain bins, there only remains the work of preparing the crop for eating. The methods employed are simple, and applied in slightly modified form to a variety of crops. The whole of the work of preparation and cooking is done by the women. Grain crops are thrashed and ground into flour between two stones, one fixed and one movable. The fixed stone is set in a bed of clay which when dry holds it firmly in place. The moving stone is held by the women in both hands and worked to and fro over the fixed stone. All the time small amounts of grain are fed under the moving stone from the back, and the flour is worked over the lip of the fixed stone in front. The flour prepared in this way is cooked by being thrown into a pot of boiling water. The resulting mass of flour and water is stirred with a large paddle-shaped spoon, more flour being added until the desired consistency is obtained. A thick porridge is the result. Cooking is very brief, and when the 'mush' is just heated through, the cooking-pot is set before the company and each person helps himself with his hand. A relish when available is eaten with the porridge. Salt, beans and, as a rarer luxury, fish or meat are the usual relishes.

Larger grains which are not so easily ground between the stones are first pounded in a mortar. Cassava, which is not an indigenous African crop, is processed in this traditional African way. The roots are first peeled, the bitter varieties are then soaked until soggy when pinched, in order to destroy the poisonous principal, and finally, when suffi-

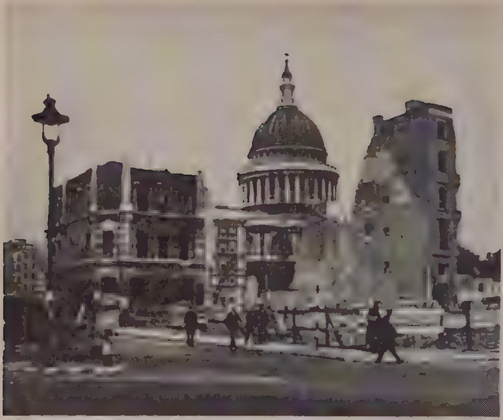


An elaborate fish weir: the palisade blocks the river and contains baskets which the fish enter and cannot escape from

ciently dry again, the roots are pounded. The mortar used for this purpose is like a trough, beside which the women sit and pound the roots into a coarse flour. This flour is dried again, picked over to remove fibrous bits and then repounded. Finally the flour is sieved and stored, until required, in large earthenware jars. Cassava is cooked in the same way as the grain and eaten as porridge.

This work of food preparation is a great, never-ending task which occupies the tedious part of the women's time not spent on field cultivation. Meanwhile the men, if not away from the village wage-earning, range through the forests or swamps on hunting or fishing excursions. Long nets of bark rope are spread through the bush and towards these the smaller antelope are driven by a ring of shouting men. This method of hunting requires cooperation and consequently the rewards are small after they have been shared between the hunters. For this reason the solitary hunter armed with the imported muzzle-loader is nowadays replacing the community drive and incidently causing much greater destruction to wild life.

One of the main fishing methods is based on the same principal as the game drive. The net, made of a string derived from the bark of the roots of a special shrub, is spread through the reeds in shallow water in a semicircle. When all is set and ready, each fisherman in a separate canoe poles himself with much splashing towards the net. Basket traps are also used in which to catch fish, and in the matter of traps the African shows great ingenuity both in the water and on land. Little snares, pits, dead-falls and, for fish, baskets, weirs and mazes are all employed to catch game, small animals and fish to flavour the tasteless porridge.



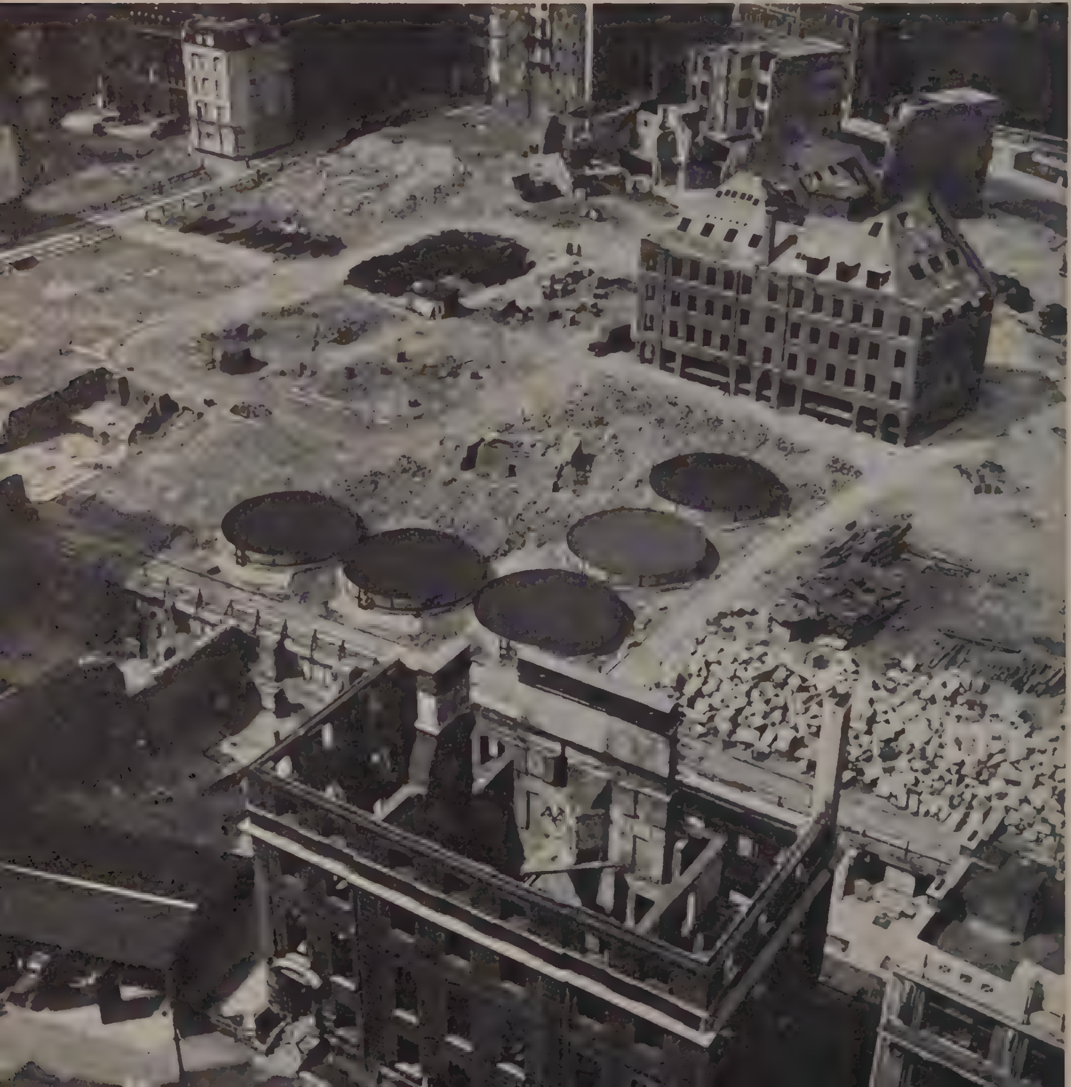
Photographs by W. Suschitzky

St. Paul's Cathedral

by EDWARD CARTER

Each day after the nights of bombing Londoners turned to the City asking "Is St Paul's still there?"—and St Paul's always was and still is there, rising with its own eccentric and superb quietness over the squalid muddle of the financiers' roofs and the dust and smoke of the bombed buildings.

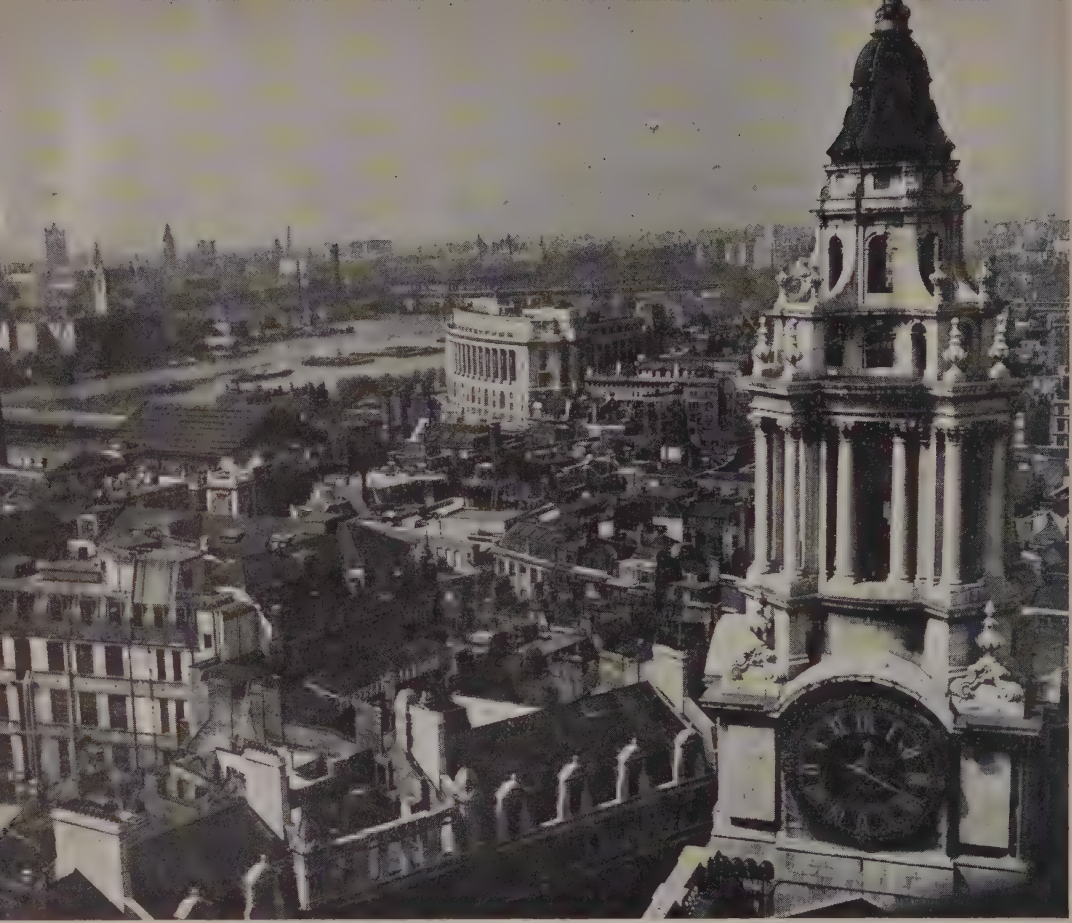
It stood then a pure and unconfused architectural



symbol of survival and stability and of something just big and reassuring. All great architecture has this characteristic—and it may be banal to point it out in connection with St Paul's which has it so obviously—that it combines with its own self-assurance as a church something abstracted from this daily function; it becomes a symbol to heighten the consciousness of those who see it. So St Paul's for London is not only a big and beautiful church, it has become a monument in which the consciousness of Londoners in all that concerns them can be expressed.

Now, when Londoners look at their dome across the strange new open spaces it is its present significance that is of value; neither what it was when Wren built it nor the imaginary significances created for it by eager planners with their ambitious schemes for new piazzas and great ceremonial avenues.

From the Cathedral roof we see, north and north-west and -east, huge areas where demolition squads have stripped the land of all that remained of the bombed buildings. These tidy areas,



where even the emergency water tanks are arranged in decent order, by contrast make more evident the confusion of the other view, south-west over the City to Westminster across the curve of the Thames guarded by a classic palace dedicated to commerce. Both the naked openness of the devastated area and the dark confusion of the old city have qualities in sympathy with the architecture of the Cathedral. The devastation opens it up and stimulates our taste for the free baroque splendour of Wren's art, the old mess lies modestly at its feet and makes no attempt at familiarity. The planners can afford to neglect neither hint, but the London that will exist after the war will have more factors brought into its creation than those we know of now. The Cathedral itself will be charged then with new significance as fresh and rich as those created round it by the blitz

The Scott Report

A New Charter for the Countryside

by L. DUDLEY STAMP, D.Sc.

Dr Stamp was Vice-Chairman of the Committee appointed in October 1941 by Lord Reith, then Minister of Works and Buildings, in consultation with Mr Hudson, Minister of Agriculture, to inquire into the future of land utilization in Rural Areas. After nine months of constant deliberations, in the course of which over a hundred bodies prepared memoranda and gave evidence, the Committee's Report, signed by eleven of the twelve members, was published in August 1942. Popularly known as the Scott Report, after Lord Justice Scott the Chairman, this document may well become a new charter for the countryside

In her article in THE GEOGRAPHICAL MAGAZINE of September 1941 Professor E. G. R. Taylor made it clear that many of the features of our country which we value highly today are the result of carefully coordinated planning and construction in the past, whereas the features we so much deplore are the result of later uncontrolled individualism and *laissez-faire* economics. It is amazing how many of our best roads today follow the bold road plan laid down by the Romans nearly 2000 years ago and how many of the least satisfactory, both as local and through routes, are the result of the attempt to patch up an outworn medieval system which grew up haphazard and unplanned. In olden days there was in fact coordinated development over much of the countryside because the bulk of the land was owned or controlled by the landed gentry who, however dictatorial and narrow in outlook, had an eye for effect, as may be seen in the conscious striving for beauty in the layout of their great parks. The spoliation has come with unbridled individualism, manifesting itself in ribbon or pepper-pot development of houses and bungalows over so much of what was until recently open country. On a national plane the flow of new industry to certain central belts of the country may have resulted in increases there of prosperity—increased rateable values and spending power for local authorities—but only at the expense of the creation of great 'depressed' areas in the older industrial regions which are more excentrally placed.

Up to the present, town and country planning has been purely local: planning schemes are initiated by local authorities or combinations of local authorities, planning has not been compulsory, so that it has been possible for a small urban or rural district council, for example, to vitiate the schemes for a whole county or large area by 'refusing to play'. The schemes have been subject to approval by the Town Planning department of the Ministry of Health (now transferred to the Ministry of Works and Planning) but there has been no initiation of schemes from above and very little guidance. It is scarcely surprising that the nation is becoming aware, not only of the spoliation, indeed ruination, which follows uncontrolled or uncoordinated development, but also of the unsatisfactory results of purely local planning without a national plan behind it.

Accordingly the Government has promised that a Central Planning Authority shall be set up, and the Scott Report is based on the assumption that this will be done and that the Central Authority will have positive policies for such important matters as the location of industry and the future of agriculture. Indeed this is made clear in the Committee's terms of reference:

> To consider the conditions which should govern building and other constructional development in country areas consistently with the maintenance of agriculture, and in particular the factors affecting the location of industry, having regard to economic operation, part-time and seasonal employment, the well-being of rural communities and the preservation of rural amenities.

It is obviously of the first importance to understand what was the position before the war and how it had arisen, so that the first part of the Report—44 pages—is devoted to a very careful survey entitled 'The Present Position'. Then follow some 35 pages of 'Recommendations', covering a wide and varied field, indeed all phases of life in the countryside. But behind them all are clearly a number of guiding principles.

The first is that the prosperity of this

By courtesy of the British Council

Characteristic fragment of rural England: Poynings Village, Sussex, with the South Downs beyond. "A countryside of varied yet homogeneous agriculture, of changing yet unified scenic aspect . . ., a mosaic of small fields, of scattered farmsteads and cottages, of attractive villages . . . the heritage of the English speaking world" (Scott Report)

country depends upon a careful use of resources and that the basis of prosperity in the future may not be the same as it has been in the past. The great expansion of the export trade in manufactured goods and the import of raw materials, cheap food and feeding-stuffs in the 19th and early 20th centuries led to a lordly disregard of home natural resources. Now is the time to think seriously of the conservation of the assets which we have in our own country—hence the need for keeping the good farm land from becoming covered with bricks and mortar and so lost to food production for ever: now is the time to seek the most adequate use in the national interest of every acre of our limited land area. Manufacturing industry at the same time must be given every facility to develop in those areas where its own efficiency and the national interests are best served. Taking a short-term view, it may be cheaper for an individual firm of manufacturers to choose a virgin tract of agricultural land for a new factory. In due course houses for workers will arise and local or public authorities will be compelled to provide extended services —roads, transport, electricity, gas, water, sewerage, medical, health and educational facilities. Yet near at hand there may be derelict industrial sites in a town where all those services are fully developed and inadequately used: the only deterrent factor is the initial cost to the individual developer of clearing the site. Because the Report draws attention to this aspect, some readers seem to think that it is opposed to the dispersal of industry recommended by the Barlow Commission. This is very far from the truth. It is no use being sentimental about 'small village industries': there is a place and an important place, often with new possibilities, for the craftsman—the blacksmith, garage mechanic, saddler, etc.—in the village, but the trend of modern industry, even those such as jam making and canning which use agricultural produce, is towards relatively large

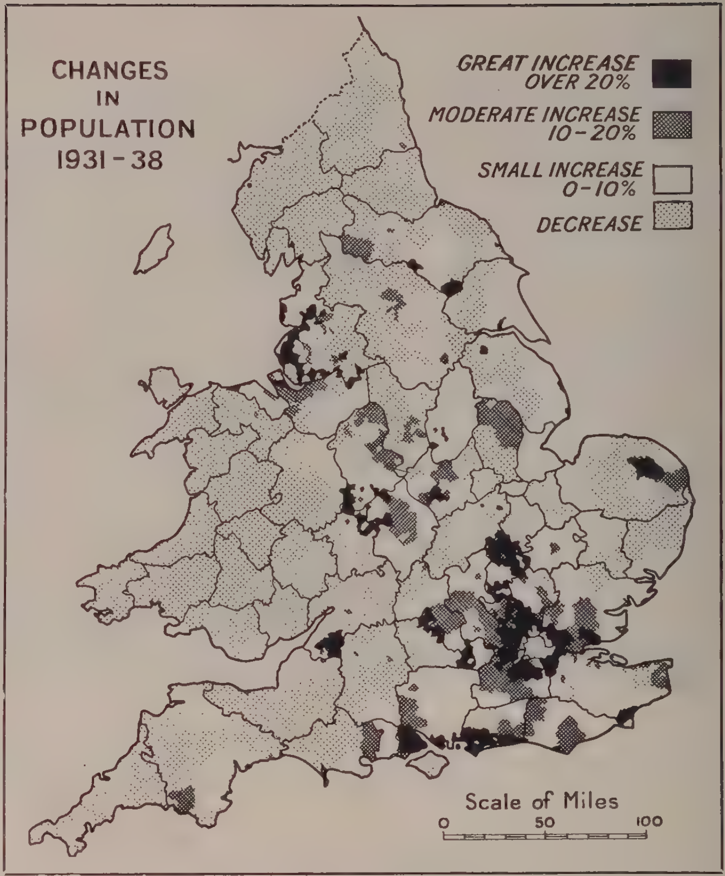
Central Press Photos

Harvesting by the Women's Land Army on the Sussex Downs in 1942. It is not yet fully realized that Britain now has the most highly-mechanized agriculture in the world. This fact alone alters all arguments about the economics of British farming based on pre-war standards

units for efficiency. One such in a village is dangerous, for short time or closure may ensue in time of depression and a balance needs to be maintained by several factories. The village cannot remain a village; it becomes a town: but such industry would give new life to many a small town. "Summarizing, we recommend that industry should be encouraged first to make use of vacant or derelict sites in towns, and that where industries are brought into country areas they should be located in existing or new small towns and not in villages or the open country. On balance we consider the introduction of carefully regulated industry in this way would be beneficial to the countryside."

Bound up with this question of the location of industry is the recognition that Britain includes the most remarkable range of natural conditions: mountain and plain; wet land and dry land, very fertile soil, very poor land; dry areas and cloudy, rainy tracts, sunny southern slopes and cold bleak heights. Hence there have grown up many varied types of farming—at least seventeen are recognized—but all closely interconnected so that, for example, one area rears cattle while another fattens them for the butcher and still another attends to milk production. Farming, like Nature, evolves rather than undergoes convulsive changes. Treated as an industry, it too must be afforded the right location and security of tenure to carry on, always bearing in mind that farming is a long-term business and that the farmer always has to plan some years ahead. The wages of the ploughman which he pays out and the fertilizer bill he meets this week he will—perhaps—recover when next year's harvest is gathered and the crop sold. The stockman's wages, the vet's fees, the stud fees, he will perhaps recover three years hence when the cows yet to be conceived and born are in full milk yield. So the Scott Report recognizes that farming is, even regarded purely as an industry, in a somewhat special position; that a long-term

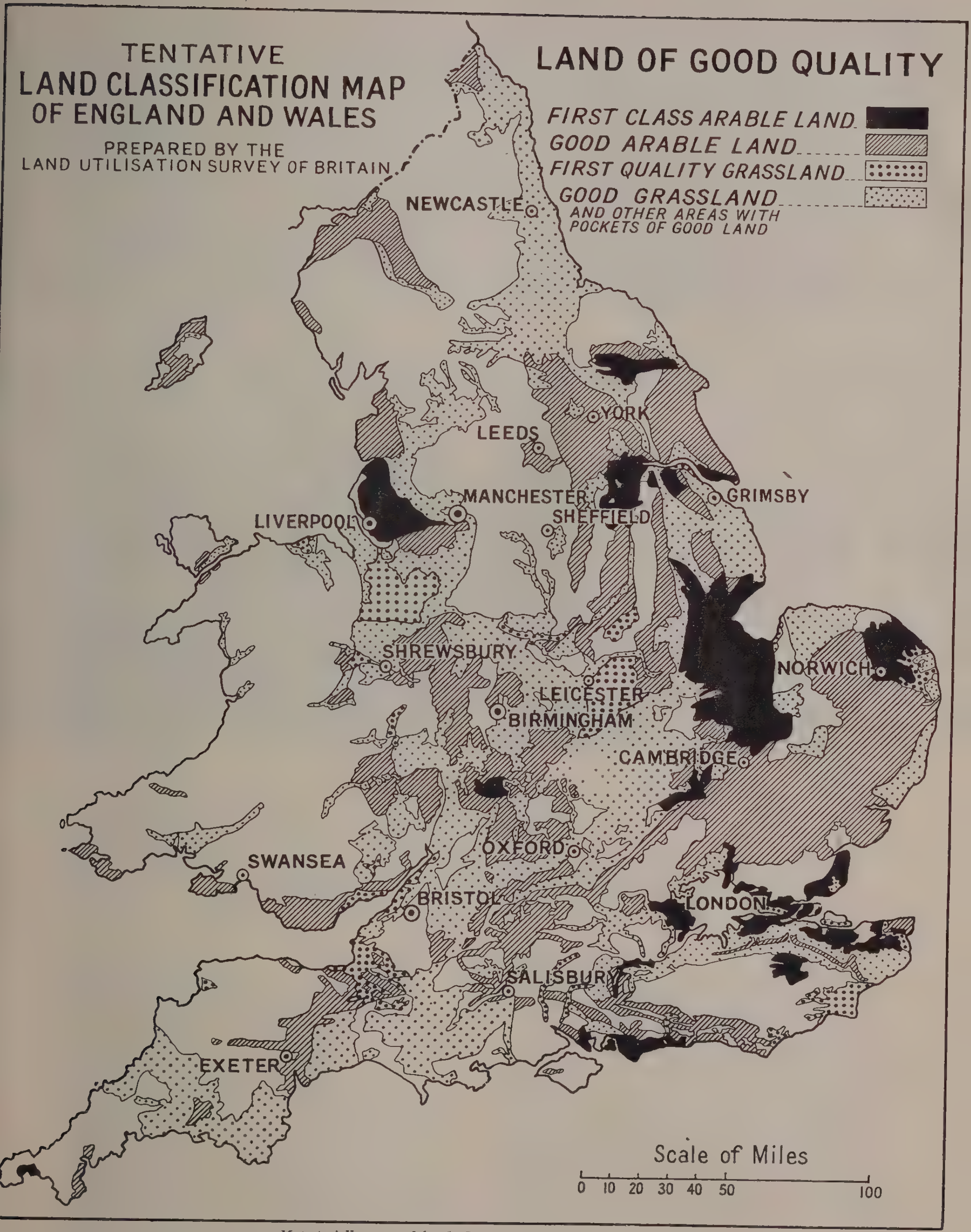
Government policy is essential with stability of conditions; that there should be control to ensure a good standard of farming. The Committee was not concerned with the detailed organization of farming, nor with farming policy, but was satisfied that the enormous progress of mechanization and the general growth of efficiency with wartime conditions rendered prophecies based on pre-war conditions invalid and out of date.



Map prepared by the Land Utilization Survey of Britain

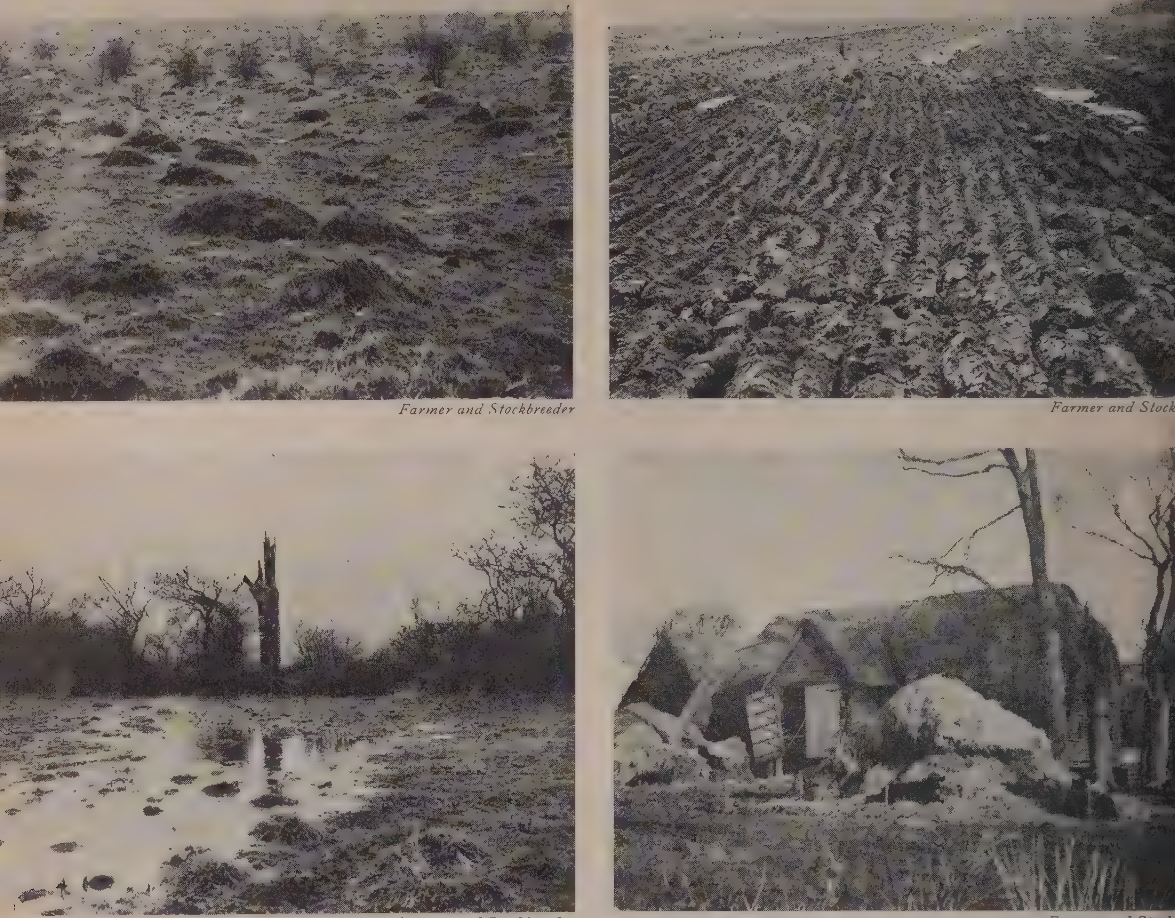
"*This map demonstrates very clearly the depopulation, in the years preceding the present war, of nearly all parts of rural England and Wales. With a few exceptions, all the great increases were in the broad central belt from South Lancashire to London and the South-east—especially in the peripheral areas of the great population centres of Liverpool, Manchester, Birmingham and Greater London*" (Scott Report)

In the second place the Committee recognized that there is more in life than mere material prosperity, that there are human values impossible to assess in monetary and economic terms. The quiet beauty of the countryside is innately precious; only when it is disappearing before our eyes do we begin to realize that it plays a part in our national life which we instinctively feel to be fundamental. We spend time and money on our gardens: how many of us add up the market values of the few vegetables and flowers we produce and the cost of our own labour at market rates to assess whether our effort has been worth while? Can we measure in terms of pounds, shillings and pence the value of a few geraniums in a window-box, the splash of colour afforded by some sturdy Michaelmas daisies in our own little plot or the few dozen tomatoes we have raised ourselves from a packet of seed? Similarly the Scott Report recognizes that we cannot assess the value of the countryside but holds that "it is a duty incumbent upon the nation to take proper care of that which it thus holds in trust"—a heritage which the citizens of this country share with all those of British descent. Of course the Committee lays itself open to a charge of 'sentiment', but eleven of the twelve members are confident that the conservation of the countryside is worth a conscious effort and even an expenditure of money which after the war may mean a sacrifice in other directions. Bound up with this is the recognition that the countryside of Britain is what it is because it is used, because it is farmed—it is man-made and cannot be 'preserved'. Virtually the only way (incidentally the cheapest way) of keeping the countryside is to farm it, so that the farmer and the forester are really



Map specially prepared for the Scott Report by the Planning Department of the Ministry of Works and Planning

"*This map shows only the areas of* good *agricultural land*" (Scott Report)



Farmer and Stockbreeder

Farmer and Stock

Farmer and Stockbreeder

Farmer and Stock

(Top left) *In 1939 "much of the land was so neglected that it deteriorated to rough grazing"* (Scott Report). *A field at Shepreth, Huntingdonshire, covered with ant-hills and bushes.* (Right) *The same field in 1942—the first stage in reclamation made possible by the mechanization of farming.* (Bottom left) *Our farming in 1938. "To meet low prices farmers endeavoured . . . to reduce their costs . . . this was often done at the cost of neglecting the ordinary maintenance work of the farm . . . ditches became choked and no longer served as effective drains . . .* (right) *barns and sheds were not put in order, hedges straggled, farm roads were left unmade, signs of decay were to be seen"* (Scott Report)

the custodians of the national heritage of the countryside, and this is the solution of the problem of 'preserving amenities'.

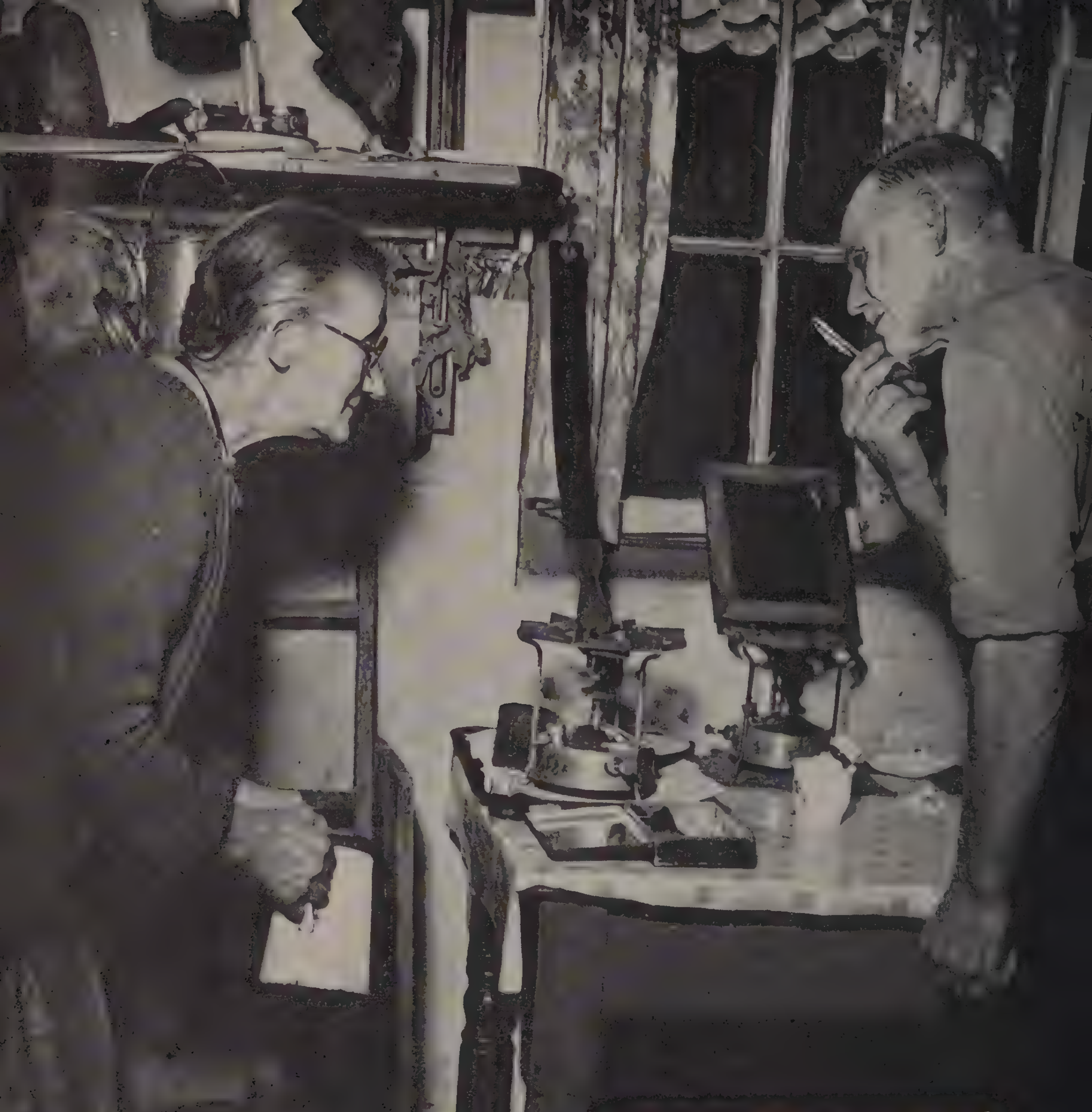
The third great principle is the recognition that all human beings are not cast in the same mould and that a full life for the individual as well as for the nation can only be achieved by affording opportunities for the legitimate development of differing tastes and differing ideals, always remembering that the development of the individual must not be at the expense of the community and that minorities have rights. Rural depopulation and the drift to the towns have been caused by the social and economic disadvantages of living in the country: the Committee believes that conditions can and should be so adjusted that those who want to live in the country can do so without undue material sacrifices and that then the problem of the 'balance' between town and country will adjust itself. So they make detailed suggestions regarding rural housing—at present totally inadequate; the wider provision of electricity, gas, water, sewerage; the resuscitation of village life by village planning with community centres of

By courtesy of the British Council

How picturesque, but what would it be like to live in? No piped water, no drainage, no gas, no electricity; damp from below and above, plagued by rats and mice. "The condition of all rural dwellings should be investigated and restorations in harmony with traditional local house design carried out to bring old dwellings up to modern standards" (Scott Report)

the village college type, or halls and facilities for recreation, temporal and spiritual refreshment.

An increasing number of townspeople will want to enjoy the countryside. Hence access is a matter of urgent consideration: the proper demarcation and signposting of footpaths, the reopening of the old coastguard's path round the coast, the provision of national and regional parks, forest parks, nature reserves, camps and holiday villages—all these need a constructive national policy. Then there is the need for the regulation of those whose activities are ruining our heritage. There are garish advertisements, ugly petrol stations, incongruous bungalows, tumbledown railway carriage shacks, wayside cafés, noisy roadhouses, conspicuous pylons, derelict mine dumps and tip heaps, even ill-placed cemeteries and out-of-place afforestation. All these have one aspect in common: they are useful, indeed important to the community. But they all have another aspect in common: the need for a proper yet firm and sympathetic control. So the Scott Report makes recommendations about them all. Taken



M.C

Old age pensioners happy to work on the land again. But their home in 1942 has few conveniences: no bathroom, no sink, so father has to shave in a dim light from the window over the kitchen table. The primus stove is the nearest approach to luxury when coal is scarce; there is no gas or electricity and water has to be carried from a pump in this Essex village. (Right) *16th-century 'cot' saved from decay and destruction by the townsman-owner: a home of which anyone might be proud. Only two miles from the main line, but the village still has no public telephone, no electricity, no gas and no water*

L. D. Stamp

[illegible]

By courtesy of the British Council

(Top) "*New villages should be planned and should as far as possible be of a compact and closely knit character . . . every village should be provided with adequate playing fields*". (Bottom) "*Most frequently houses designed for towns are erected in country districts, whereas country dwellings should be specially designed . . . nearly all detached or semi-detached houses are too tall in proportion to their length and depth: their appearance is bound to be unsatisfactory*" (Scott Report)

Aero Films

Above) *Heavy industry: iron smelting. "Many heavy industries are immobile and must remain in the* *arge urban concentrations"—"the location of industries which emit noxious fumes or poisonous effluents* *hould be subjected to stringent control"* (Scott Report). (Below) *Extractive industry—chalk for* *ement. "Though their location is determined by immutable physical conditions, which may often* *ecessitate their coming into country areas, they should be subject to effective planning control"* (Scott Report). *Chalk is widely distributed in the country, and so only certain parts need be worked. A* *hite dust is inevitable from the cement industry which when it settles on a ripening plum crop may ruin* *he whole. Thus permissible locations should be decided on principles of national planning.*

Hobart

Geographical Publications Ltd.

There is a footpath through this lovely farm. "There is still great need for a better understanding, based on both goodwill and better knowledge, between town and country . . . much damage by trespass, the breaking down of hedges and unnecessary opening and leaving open of gates is undoubtedly due to the difficulty of finding footpaths" (Scott Report)

individually, many of its recommendations are of small matter, even trivial; taken together, they afford a glimpse of a post-war Britain within our grasp which shall embody all those many features for which we have as individuals so long hoped but which without corporate action would remain unattainable.

Apart from the legislation and governmental machinery which will be needed to carry out the recommendations there is an immediate and urgent need for more knowledge. If we are to keep the best farm land, we need to know where it is: the preliminary work of the Land Utilization Survey which has divided the land into ten main types (1-4 good land; 5 and 6 medium; 7-10 poor) needs to be particularized and extended. We need to know more about the organization of farming and farm units and where these are efficient: we need to know more about transport and transport needs; the needs of our various industries. These and a hundred other subjects call for continuous scientific study and a research department to collect the information and collate it. Steps are being taken—the Minister of Agriculture has appointed a Chief Adviser on Rural Land Utilization charged with the study of matters concerned with agriculture and rural land in relation to national planning, while the Ministry of Works and Planning has a central maps department—but much more is needed.

It was not within the Terms of Reference of the Scott Committee to deal with the financial aspects of the problem. For the most part that was the function of the Uthwatt Committee whose Report appeared a month later. Two things are, however, important. In the first place, the members of the Scott Committee convinced themselves that all their proposals were "essentially and immediately practical and practicable" and that finance was not an insuperable difficulty in any of them. In the second place, the proposals of the Scott and Uthwatt Committees where they cover the same ground make recommendations which are for practical purposes identical; their other parts are complementary and in no way incompatible. Both Reports of necessity assume that the promises given in both Houses of Parliament will be fulfilled—that national planning will

By courtesy of the British Council

"*A conscious and creative urge to bring beauty as well as efficiency into the countryside. The stately parks are a living testimony to this*" (Scott Report). *Cattle grazing near Chenies, Buckinghamshire.* (Opposite) "*There is no antagonism between use and beauty*" (Scott Report). *Cherry orchards and oasthouses, Newington, Kent*

be a reality and that a Central Planning Authority will be established. Having made so many practical suggestions, the Scott Committee felt it essential to show briefly by what machinery of Government they could be carried out, and in this their proposals are identical with the Uthwatt Report. First, there must be a Minister of National Planning (or Minister of National Development) with a small highly qualified staff. But national planning is largely a question of the fair allocation of land for varied needs, so the Minister must have no departmental axe of his own to grind. He should have no departmental cares of his own—but would sit as Chairman of a committee of ministers (*e.g.* of Agriculture, Transport, Defence, Works, etc.) whose departments *are* concerned with the actual use and development of land. Their rival claims would be thrashed out in committee, and once national policy was decided each ministry would be free to carry out the development functioning in its own sphere. It is obviously impossible that the control, for example, by the Minister of Agriculture, of future development in farming could be handed over to a single 'Reconstruction Minister'. This experiment was tried after the last war and failed. In order to secure that the Minister of National Planning is free from "day-to-day administration, that administration is properly handled, that local authorities, private developers and landowners have ready access to informed advice and authoritative direction", both Reports urge the need of a Central Planning Commission under a full-time independent Chairman (not a Government official nor a 'politician'). By choosing Commissioners of proved knowledge and ability in their own spheres, any fear by the public of "Control by Whitehall" would be removed and the Commission would

L. D. Stamp

The Aftermath of Mining. "Provision must be made for removal of derelict buildings" (Scott Report)

secure unification of essential research and a continuing policy sometimes difficult with changing ministers. With this central guidance on national policy, local authorities would be free to carry on the planning of their own areas—freer actually than at present because the financial obstacles such as payment of compensation for restricted zoning would be removed by the Uthwatt proposal that all development rights should be purchased by the State. The scheme aims at securing an ideal marriage of central guidance and local initiative.

In view of the wide implications of the Scott Report it is interesting to note the personnel of the Committee. Far from being a group of theoretical idealists, they represent a very wide range of sound knowledge and hard experience: the managing director of a leading firm of motor manufacturers and a managing director of the Cooperative Wholesale Society; a leading landowning peer and an agricultural labourer; the head of the Women's Land Army and the County Councillor widow of a leading industrialist; a shipping expert and a past president of the Surveyors' Institute; a prominent farmer and a university don. Amazing that they should all agree on the right programme for the future and rank themselves solidly behind the Chairman, whose life has been so largely spent in the weighing up of pros and cons and reaching the right decision. The twelfth member of the Committee alone disagreed—as a professor of Economics of the *laissez-faire* school he exercised his right of academic detachment in restricting himself to those matters which can be measured in economic terms; of necessity his analysis is based on the past and his disagreement is fundamentally with the terms of reference which postulated a prosperous agriculture. Are we really sure that our standard of living was really so high before this war that we set it up as a goal to be maintained at all costs? Can we really believe that the world will continue to supply Britain with foodstuffs and raw materials at under cost and be eager to buy again those manufactures which they have since perforce learnt to make for themselves? The curse of the twenties of this century was the '1914 mind'; a not inconsiderable obstacle to realistic thinking now is "what we did in the last war". That is why eleven out of twelve members of the Scott Committee think it is better to try to look forward rather than be tied by what has been in the past.

There are those who will say that the world after the war can look after itself: that all talk of reconstruction is premature, that the only task of the moment is the winning of the war. With that we all agree and nothing must be allowed to hinder the war effort. But in the words of the Scott Report, "It is our firm belief that a vital incentive to the war effort is the presentation of a clear picture of a better world which lies ahead and which, if plans are drawn up and the essential preparations made in advance, can be achieved after this struggle is over. To delay planning and the legislation to carry the plans into effect until the time for action is upon us—the end of the war—we believe to be a fatal error."

Antarctica

II. The Living Fringe

by F. D. OMMANNEY

Last month we published the first of two articles Mr Ommanney has written for us on Antarctica. In it he described the continent and the conditions which he experienced in the course of three two-year periods he spent there between 1928 and 1939 while on the scientific staff of the 'Discovery' Committee. In his second article he turns from the land to the surrounding seas and the fringe of coasts and islands where the only inhabitants—whales, seals and sea-birds—live and multiply

Along the edges of the pack-ice skirt that fringes the Antarctic continent and down the avenues and 'leads' within it thousands of whales travel in herds throughout the summer. They form the basis of the only great commercial industry that flourishes in the far south, the whaling industry, which reached colossal proportions before the war.

The whale is a truly astonishing animal, fish-like in shape and yet not a fish but a mammal, breathing air. It is really a sort of horse adapted for life in the sea. Like the wild horse it travels in great herds and like the horse it grazes, though not on any kind of grassland but on the clouds of tiny shrimps that fill the waters around the pack-ice edge.

It is amazing that this huge creature, the largest animal that has ever lived on earth, not excepting the giant reptiles of old, should live on nothing more substantial than a shrimp about an inch long. But the shrimps are engulfed in uncountable millions so that when the whale's stomach is slit open at the whaling station the shrimps, which the whalers call 'krill', come pouring out like corn. As a special adaptation to this unappetizing diet, the whalebone whales which form the basis of the great southern whaling industry have lost all their teeth. In the yet unborn baby whale the beginnings of teeth may be found, but in the grown animal the teeth are replaced by a series of vertical horny whalebone plates, designed to strain the shrimps out of the water. The whale swims along with his mouth open. Closing his mouth he forces the water out at the sides of it. The sea water passes out between the horny plates but the shrimps become entangled on the hairs which form the inner edges of the plates. With his spongy inflated tongue the whale sucks the shrimps back into his narrow gullet.

Like the horse, again, the whale is a slow-breeding creature. It has only one young at a time and takes two years to complete the cycle from mating time, through birth and nursing to the next mating season. The whalebone whales spend their time, so far as is known, migrating from the tropics to the Antarctic pack ice and back again. They feed on shoals of shrimps along the Antarctic pack ice during the summer and voyage north in the winter to breeding-grounds off the coasts of South Africa, Australia and South America. When in the north, on their breeding-grounds, they mostly starve and return to the Antarctic very lean, in great contrast to their fat well-fed condition when they go north in the autumn.

Whales have many remarkable adaptations to fit them for their life in the sea. There is the loss of teeth and their almost fish-like shape — almost because the tail fin is carried horizontally instead of vertically like that of a fish. And, buried deep in that smooth tubular side, there can be found still the tiny bones which are all that remain of the hind limb. Then there is the remarkable non-return valve formed by the nostrils and gullet, which enables the whale to open his mouth wide below the surface without swallowing any water. But most remarkable is the thick coating of firm white fat under his skin which makes him impervious to the cold of Antarctic seas, for the whale is a warm-blooded animal like any other mammal and would perish from cold but for this special clothing.

All the whale's tissues indeed are impregnated with fat to an extraordinary degree. It is this coat of blubber and the oil that fills all his bones and tissues that makes the whale so valuable. When the blubber has been stripped off and boiled down in pressure boilers it gives a clear white whale oil which

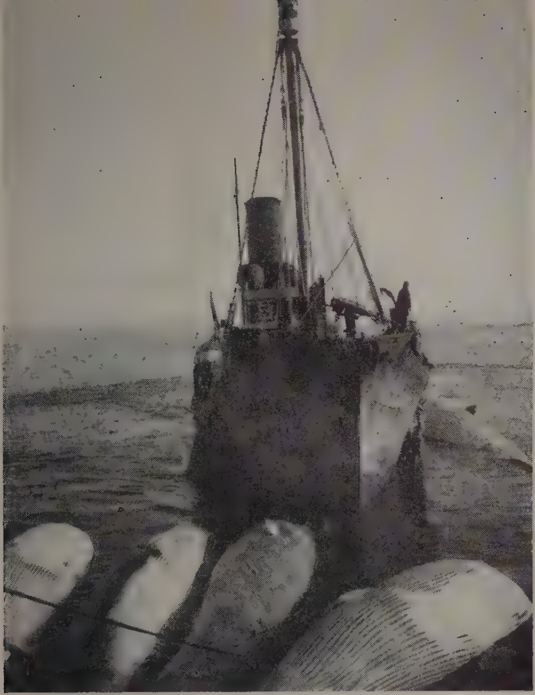
A. J. Martin

(Above) *A factory ship at work. The carcasses of the whales are moored near the slipway in the stern.* (Below) *A whale catcher in an Antarctic harbour. The loaded harpoon gun can be seen at the point of the bow. Note the crow's-nest on the mast*

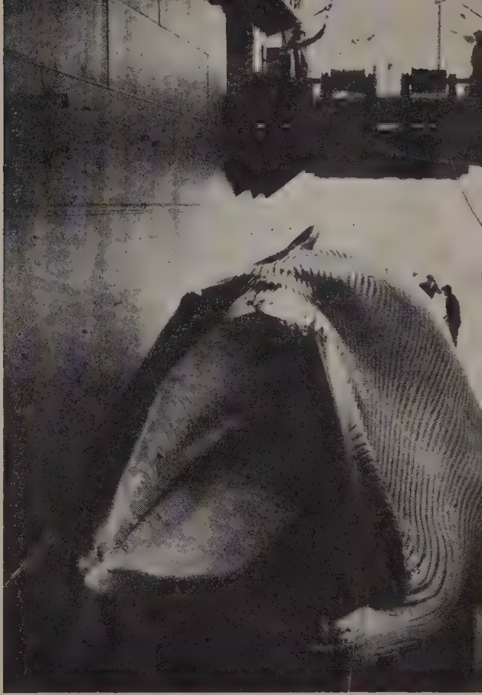
Central Press

is used for making soap, margarine and, as a by-product, glycerine. It is also used for making high explosive, so that in these days whale oil has an extra value. Every part of the whale, blubber, muscles, bones and entrails, goes into the boilers at the whaling factory and comes out some hours later as this white oily liquid. Nothing is wasted except the horny whalebone plates, which are returned to the sea from which they came.

Nowadays whaling is carried on by giant factory ships of up to 20,000 or 30,000 tons,



A. J. Martin



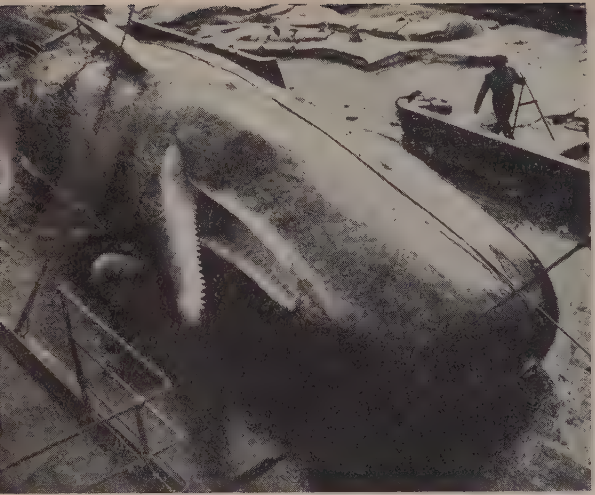
A. J. Martin

(Above) *A catcher delivers whales to the factory. The whale on the right is being drawn up the slipway. The huge sieve of whalebone-plates in the roof of its mouth can be seen.* (Below) *Carcasses of fin whales are of great interest to penguins*

with all the apparatus of an up-to-date factory on board. Each factory employs a fleet of six or seven small fast whale-catchers armed with harpoon guns. The factory ship lies off the pack ice, following the whale herds along it, and the catchers go to and fro throughout the day and bright night for several months upon the chase. They tow their catches back to the factory to be cut up.

The whales are shot with a harpoon fired from a gun by a charge of black powder. The harpoon carries at its end an explosive grenade and three non-re-

A. J. Martin



A. J. Martin

A. J. Martin

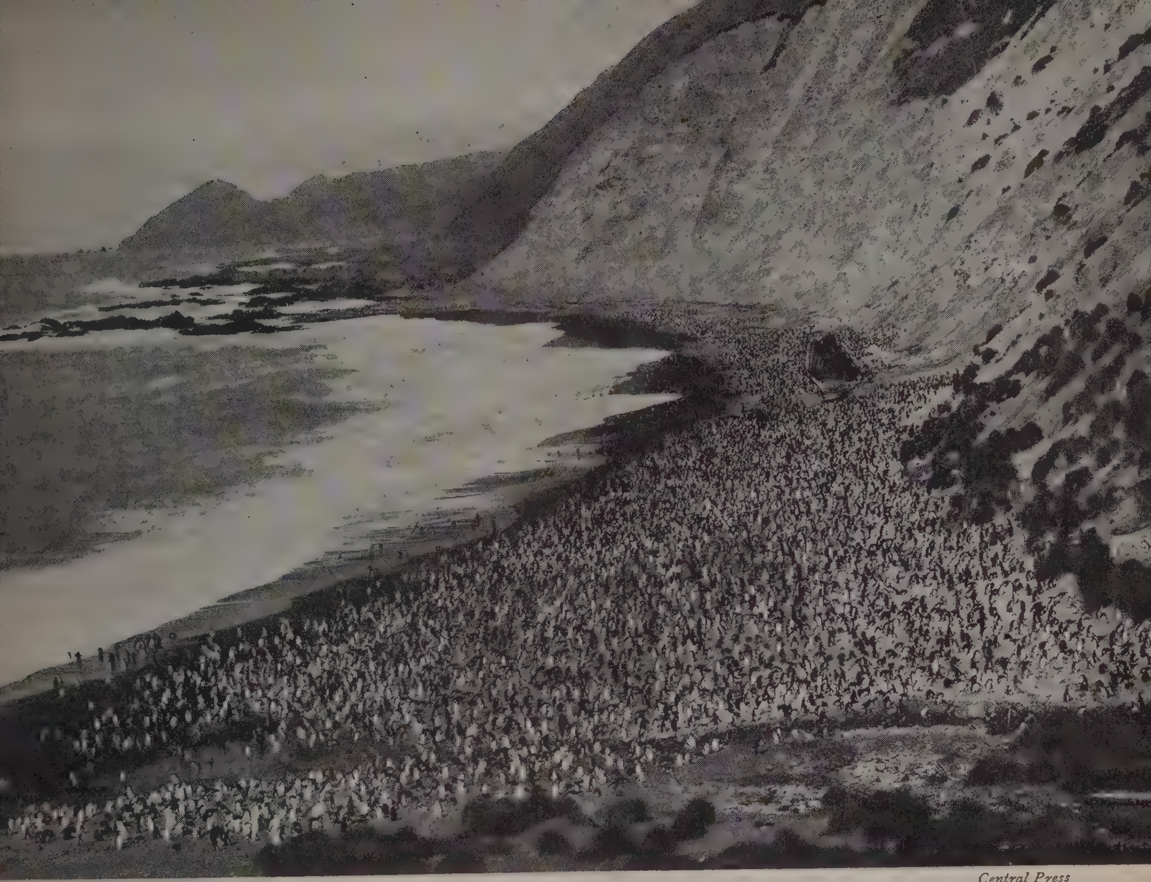
(Above) *A sperm whale on the flensing deck. The huge head contains the wax-like spermacite.* (Below) *A blue whale, which is the largest of the species*

tractile barbs. When the harpoon, carrying out the harpoon line, strikes the whale the grenade explodes, shattering the whale's backbone and three barbs project outwards so that the harpoon cannot withdraw from the flesh. The whale in its death struggles, which must often entail great agony, is then played like a giant fish at the end of the harpoon line. The line runs up over the foremast of the catcher and down into the hold of the ship, so that the foremast may be likened to a giant fishing-rod and the hold to the reel paying out the fishing line. When at last the whale is dead, often after a terrible and bloody battle, his corpse is blown up with air to prevent it from sinking and towed tail first back to the factory ship. Here the blubber is stripped off by means of long-handled curved knives, and the flesh cut into convenient sections. The bones are hewn in pieces by steam saws. All are tipped into the cooking-pots below the deck. In about eleven to sixteen hours all that remains of the leviathan is a steady trickle of clear white oil running along a pipe to the separators which strain the water from it by centrifugal force.

The whaling fleet goes south in December. In March the ships return with their tanks full of whale oil, the liquid mortal remains of some hundreds of whales, having already, perhaps, shipped home in separate tankers the remains of several hundred more.

The slaughter in the years before the war was terrific and melancholy. Some thirty thousand whales a year were hunted down and slain so that men might slay each other in a vaster, crueller war. There was a danger that before long this slaughter would so deplete the whale herds that it would kill the goose that was laying the golden eggs. Wise Government control, by means of a noteworthy piece of international cooperation, introduced regulations designed to lessen the chances of this catastrophe happening. For a catastrophe it would be, not only because of the ruin that would befall the whaling industry but because the whale is a natural marvel in a world where natural marvels are becoming fewer every year. It is a shy and timid beast, alert and sensitive as a wild horse. It has a knowing and humorous eye.

So it is from the seas around the Antarctic rather than from the continent itself that the chief benefit to mankind is derived. For on that desolate land there is no life. On the bleak mountains and islands that fringe it some poor mosses and lichens grow, and on the islands farther north, such as South Georgia, there is a coarse tussock grass and some low, inconspicuous flowers. But around the coasts, in every nook and cranny, on every accessible ledge and shelf, live myriads of birds. Of these the chief are the Penguins, those true natives of Antarctica. Penguins are widespread in the Southern Hemisphere. They are found as far north as the coast of Patagonia, on Dassen Island off the coast of Cape Colony, on the South Island of New Zealand. There is even a dwarf penguin on the Galapagos Islands on the Equator itself. But the true home of these bizarre and fan-



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The penguin rookery at Macquarie Island, a sub-antarctic island lying to the south of New Zealand

tastic little people is the Antarctic coastline and the outlying islands. Here they often cover the surface of the cliffs in countless thousands, filling the air with their chatter and their stench. You can see their white waistcoats speckling the bare cliffs from several miles out to sea.

The Ringed Penguins and the Adélie Penguins are the commonest though there are many other species, some of them with gay crests or, like the stately King Penguin, with a beautiful orange breast and flame-coloured collar. The Ringed and Adélie Penguins are comparatively soberly dressed in black and white. The Adélie has a coal black helmet with white eyeholes and the Ringed Penguin a white mask with a black line under each eye. They come up from the sea and appear all over the cliffs about November, and there is great business and activity in those formless and inhospitable colonies. The hens begin scraping together little uncomfortable beds of angular stones. The gentlemen go about among the ladies bowing and offering them stones as a sort of tribute. The lovers stand opposite one another with their necks outstretched and their beaks pointing heavenwards. They make a strange crowing noise and plunge their beaks into their breasts to nibble at themselves. All this means something in their language, but what it is they have soon forgotten for the next second they are gazing vacantly and foolishly at nothing, apparently ignorant of each other's existence.

Central Press

Large colonies of elephant seals are often to be found in summer sprawling on the beaches of sub-antarctic islands

Then suddenly they fall to again, bowing and chortling to one another.

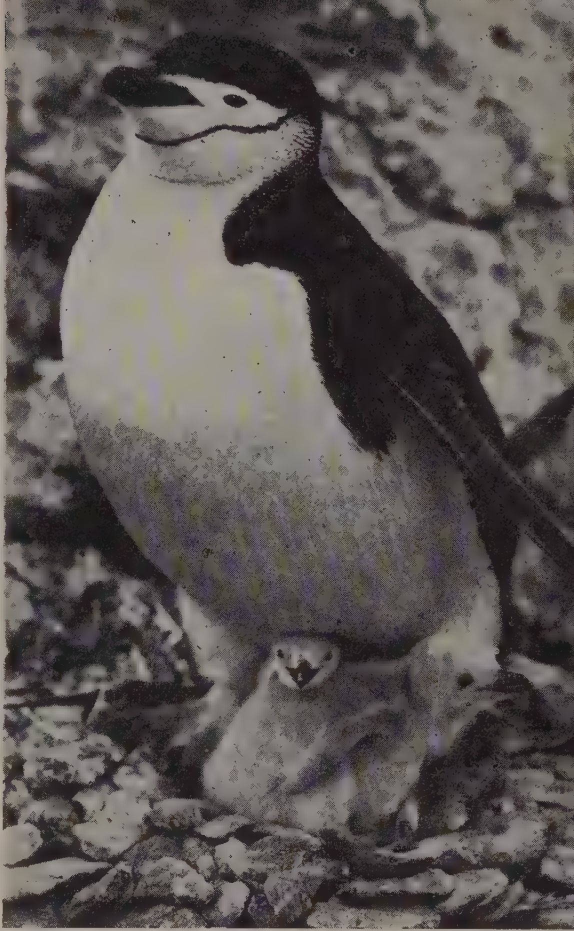
About the beginning of December the result of all this appears and each lady has, tucked underneath her white breast, her heart's desire—a dirty white egg, or even two. These she guards with devilish fury, lungeing and striking out at any of her neighbours that come too near and even behaving offensively to other proud mothers who happen to be entirely occupied with their own intimate concerns. Meanwhile her husband makes voyages out to sea where he feeds on the same shrimps, the krill, that the whales eat. On his return he disgorges onto his comb-like tongue a half-digested pulp out of his own crop which his wife eagerly devours.

The family appears at the end of December or thereabouts as a miserable scraggy little object covered with grey down. It soon grows, however, and is as large as its parents by the middle of February. It is untiringly fed by both its parents, who make constant voyages out to sea and return to disgorge the contents of their crops for it to feed on at second-hand. But when the children reach the size of their parents the business of feeding their offspring becomes too much for all those devoted couples, who cannot cope with the incessant clamorous demands their children make upon them. So the growing young are grouped together in crèches, batches of shrilly-piping querulous school children, under the charge of a few nurses who stand sternly by and furiously assault any intruder who happens to come too near. All the other adults now devote themselves to making voyages out to sea to get food. On their return they are set upon by the young, ever clamorous to be fed, directly they set foot upon the beach. But about the end of February their patience begins to tire. Then the young often scream in vain, begging with vain tears for food from grown-ups become suddenly morose and indifferent.

By this time the ground around the colony is drenched with innumerable droppings and beaten flat between the rocks by the trampling of countless webbed feet. From the impregnated earth an indescribable pungency goes up into the chill air. Now the children exchange their black down for feathers. They become ragged and ludicrously moth-eaten for a while. Then they blossom out into the neat black-and-white evening dress which is their adult wear. They take to the sea and may be seen practising swimming on calm days, floating on their backs with tail and beak up like little boats, paddling with their flippers. Soon they are jumping and darting arrow-like through the water as their parents do. At the beginning of March the penguin colony breaks up and is deserted. Quiet descends upon it and soon a mantle of snow covers it, gently at first and then in whirling driving clouds. So the penguin city remains buried until the spring uncovers it, made new once more for the owners returning from the sea.

I cannot do more than mention the Emperor Penguin, that strange bird that nests and brings forth its young in the depth of the Antarctic winter, thousands dying on that account every year. Nor can I say anything about the many seals which lie about the beaches and dart like torpedoes through the water hunting penguins. The Leopard Seal is said to catch penguins with one snap of his jaws and turn them inside-out with a shake of his head. And I must leave to lie in undisturbed and perpetual sloth the great Elephant Seals of South Georgia which are hunted for their oil around the beaches.

In spite of the advances in the methods of exploration which the aeroplane and motor-sledge have brought about, the Antarctic still remains Terra Australis Icognita, an unknown land, hostile to mankind. Vast tracts of it have never been trodden by the foot of man and never will be. The solitudes where he has passed soon forget him and sink back into that eternal hush that magnifies into a tumult the sigh of the sea under an ice floe, the cough of a seal or the distant puff of a whale. The Antarctic has been the scene of some of the highest examples of human endeavour and courage, and the names of Scott, Amundsen, Shackleton, Edward Wilson and Oates still ring in the ears of Englishmen and Norwegians.



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Ringed penguins: the one above has two young chicks, the one below an almost fully grown chick, though it still retains its fluffy down feathers

G. H. T. Kimble

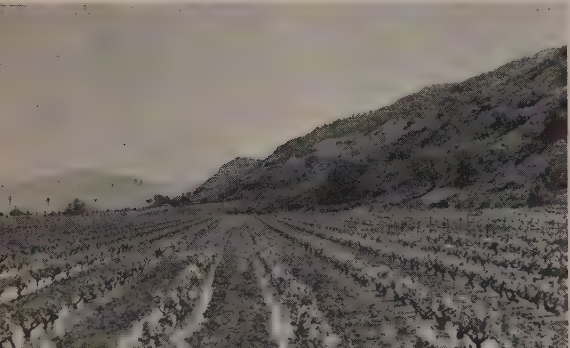
Algerian Background

by ALAN HOUGHTON BRODRICK

Algeria is a country of contrasts. Nearly nine-tenths of its immense area is desert,—but desert interspersed with oases,—known as the 'Southern Territories'. The remaining tenth is the Algeria of the north which occupies the centre position of the three states Tunisia, Algeria and Morocco. These make up what our fathers used to call 'Barbary'.

This northern Algeria, although as I have said but a tenth of the whole country, contains over six and a half million inhabitants as against less than 750,000 for all the vast Saharan spaces southwards. Northern Algeria is a land of mountains and high plateaux, deep valleys and rocky precipitous coasts. Northern Morocco, Algeria and Tunisia make up a geographical whole which the Arabs call the 'Island of the Maghreb' or the 'Island of the Western Land, and the name is apt enough, for the 'Island', bounded on three sides by the

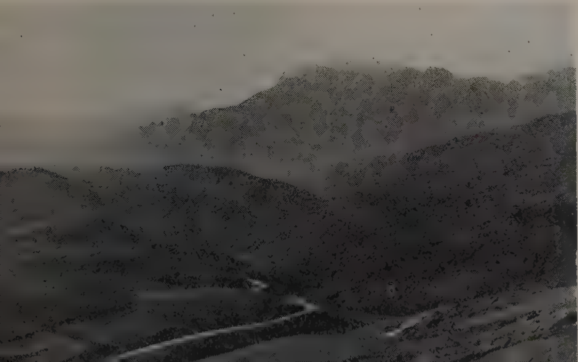
G. H. T. Kimble



G. H. T. Kimble

(Opposite, top) *The coast-line near Bougie, a hundred miles east of Algiers;* (bottom) *cultivated land about half a mile inland* and *the* Route Nationale *near Bougie.* (Above) *The Djurdjura mountain mass just south-east of Algiers;* (below) *road from Bougie to Sétif which runs through the Kerrata Gorge* (right)

G. H. T. Kimble



G. H. T. Kimble

sea and on the fourth by the Sahara, is an upland traversed by the numberless ranges which compose the Atlas system of mountains. Although northern Algeria has no peaks to rival the Great Atlas in southern Morocco, snow falls and remains for many months in its high hills.

The transition from the uplands of the north to the sands and rocks of the Sahara is sometimes abrupt, as at the southern face of the Aures Mountains in south-eastern Algeria. But sometimes, as for instance when you go south from Algiers city, first through the gently sloping *tell* or fertile strip near the coast (though high up beyond the cliffs) and then through hills to the high plateaux and down towards the first oases, it is almost unnoticeable until you realize that you have sand instead of soil and that the only greenery is the tufts of the palm trees.

The northern part of Algeria is narrow, but long from west to east, and owing to the conformation of the land the natural communications are lateral.

(Above) *A Berber hill-top village.* (Below) *Berber village in the Djurdjura Mountains.* (Opposite) *Storehouses perched on a precipice above a wadi in the Aures Mountains near Biskra*

G. H. T. Kimble

The photographs reproduced on these pages show the varied face of Algeria from just west of Bougie, where Allied troops landed on November 11, eastwards along the coast towards the Tunisian frontier. Then inland among the gorges, broad valleys, plateaux, bare hills for the most part, since even when the rainfall is plentiful the trees that have not been used for fuel have been eaten by the goats. Afterwards we have the transition to the drier lands of the south. Next we are in the Sahara of sand-dunes (they are comparatively rare, for most of the Sahara is rock and stone) near El-Goléa, over 400 miles nearly due south of Algiers. And beyond El-Goléa there is nothing but desert until you strike the Niger basin some 1500 miles away. Last we have Beni Isguen, one of the seven cities of the M'zab country inhabited by a curious trafficking people known as the 'Jews of Islam' who travel far and wide over North Africa on their business, but always return to their desert home.

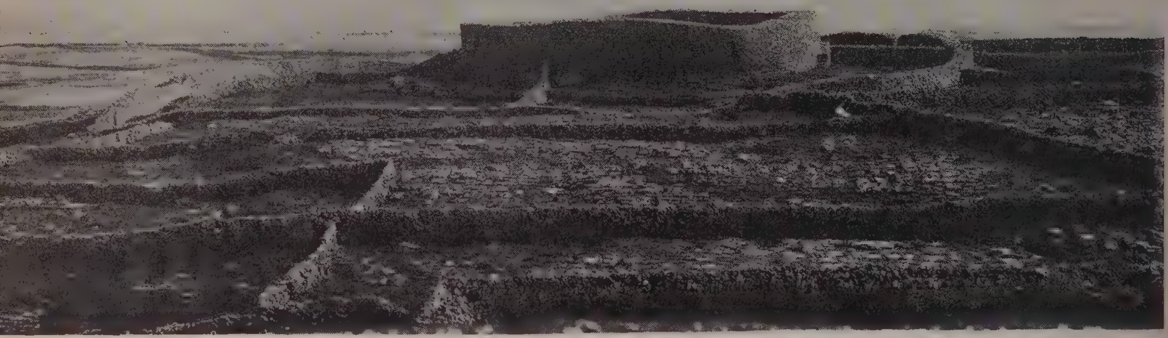
G. H. T. Kimble

(Opposite, top) *A by-road leading off the main highway between Algiers and Bougie;* (bottom) *many of the roads in the south of Northern Algeria are nothing more than rocky wadis, such as that at Baniane.* (Right) *Sand dunes near El-Goléa, over 400 miles due south of Algiers;* (below) *150 miles to the north-east lies Beni Isguen, a holy city in the heart of the M'zab country*

From A. H. Brodrick

The Aran Islands

by THOMAS H. MASON

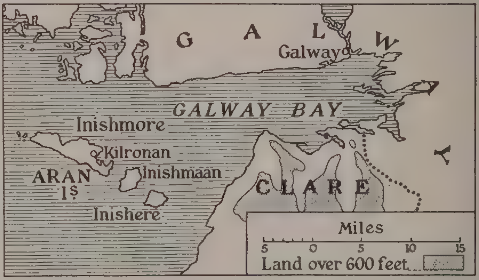


WHEN one travels across the centre of Ireland from east to west—from Dublin to Galway—one sees a flat country alternating between rich pasture land and great stretches of bog around whose margins are the low undulating fertile ridges called eskers by the geologists. In fact, a great part of the road passes through or around these ridges, which are composed of gravel and sand deposited by the melting ice at the close of the last glacial epoch.

The centre of Ireland is composed of carboniferous limestone but at Galway Bay one finds a difference. The rocks of the northern or County Galway side of the bay, which begins at Galway City and extends due west for about 30 miles, are hard igneous rocks, whereas those on the southern or County Clare side are limestone.

The sea has penetrated the junction of these widely different geological formations, but the high limestone ridges still remain above the water and form the Aran Islands, which lie across the entrance to the bay. Geology thus confirms the old legends which state that the islands were originally connected with the mainland.

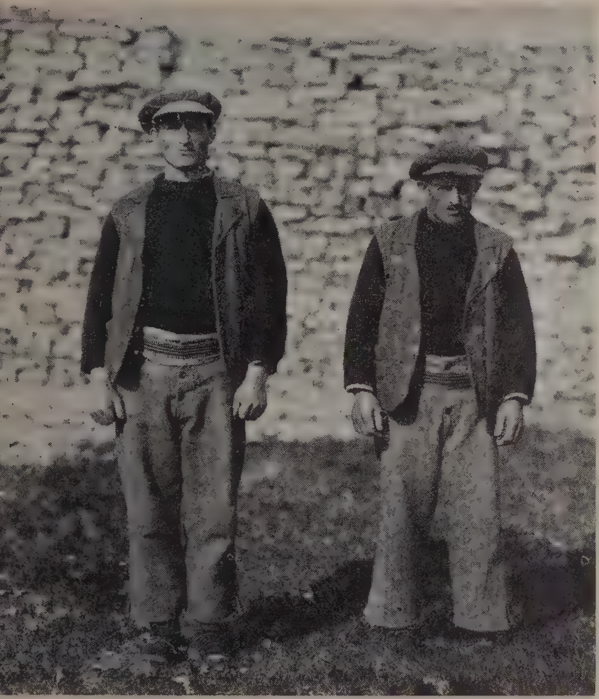
The process of breaking down the rock is still going on—the Atlantic Ocean may rest, but it never sleeps—because the stratification is horizontal and easily undermined. Even within living memory large gaps have been made in the high cliffs which form the islands' protective rampart on the western side.

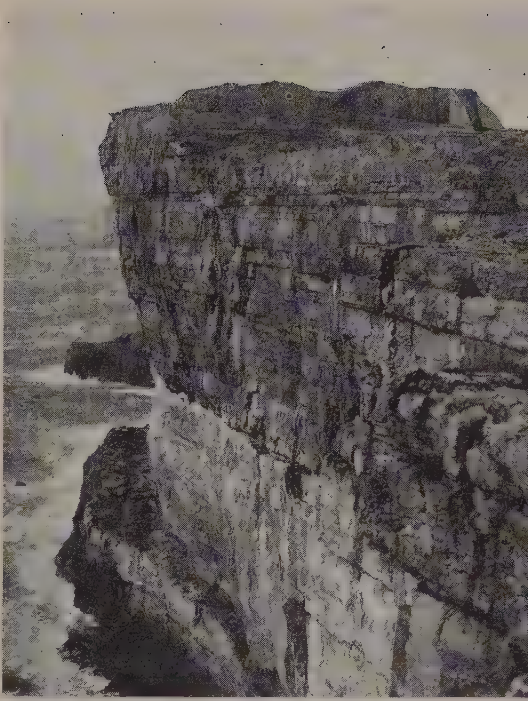


Stanford, London

There are three islands—Inishmore (the great island), Inishmaan (middle island) and Inishere (eastern island)—and the cliffs rise to their greatest height, 300 feet, on Inishmore where they form the seaward protection of several enormous stone forts.

From the western cliffs the land slopes steeply towards the eastern side which is protected from the fierce Atlantic gales, and





Two island men wearing sleeveless jackets and wide trousers of handwoven tweed with slots at the bottom. Their belts are called 'creeses' and their sandals 'pampooties'. On the right is the 300-foot cliff of Inishmore, crowned by the prehistoric fort of Dun Aengus

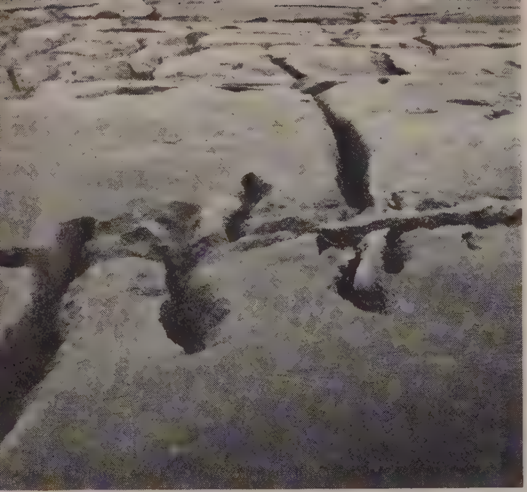
it is on this side that the small villages are built, not merely on account of the protection, but also because there are numerous beautiful strands from which the islanders can launch their light canvas-covered boats.

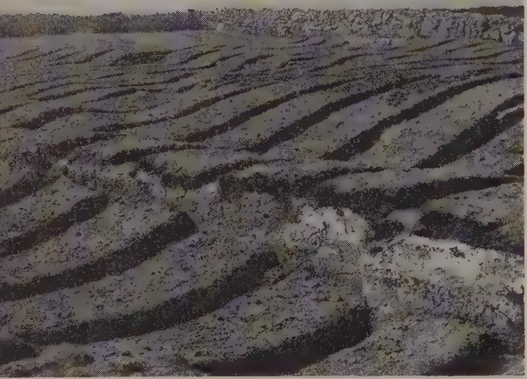
Bleak and windswept and with little soil, the islands have nevertheless been inhabited from very early times. Evidence has been found which shows that neolithic man occupied the beaches. A number of Bronze Age monuments are found on the higher slopes and it was during the Iron Age that the great forts were erected.

The population during the Iron Age must have been considerable, as the building of the forts required a large number of organized workers. During the early Christian period the population was probably greater than at any other time, as in addition to the ordinary inhabitants, then as now employed in fishing and farming, there was a considerable ecclesiastical population on the largest island, Inishmore.

From the 6th to the 10th centuries 'Aran of the Saints' was one of the great Irish Christian universities which attracted scholars from and sent missionaries to every part of Europe, and thus preserved the Christian heritage after the fall of the Roman Empire.

During the Middle Ages, and the Elizabethan, Cromwellian and Williamite wars, the islands suffered many vicissitudes on account of their strategic situation which controlled the sea approaches to Galway. That is the historical background. In modern times there is much intermarriage between the islands and in a smaller degree with the mainland; but nevertheless the islanders are a distinct people in which the strongly predominant element is pre-Celtic: long-headed, quick-witted, delightful people known to anthropologists as the Mediterranean Race, who arrived in Ireland about 2000 B.C. and were subsequently conquered by the much less attractive and more quarrelsome Celts. The present population of the Islands is about 2000, of whom more than half live on





Inishmore, which is 9 miles long and varies in width from ½ a mile to 2½ miles. The other islands are more compact, Inishmaan being roughly 3 miles by 1½ miles, while Inishere is practically square, about 1¾ to 2 miles from side to side.

As one approaches the islands on the steamer from Galway, they appear as rocky wildernesses with here and there a small hamlet or an isolated whitewashed cottage in the welter of grey rock. Small patches of green show where there is cultivation, and one wonders how so many people manage to exist in such circumstances.

This impression is strengthened on landing because the surface of the greater part of the islands consists of bare rock, sometimes flat and smooth with the surface intersected by deep narrow fissures or sometimes a confused jumble of broken and weathered rock upon which it is difficult to walk. Evidences of glacial action can be seen everywhere in the form of rounded escarpments and boulders which are scattered on the surface. Many of these boulders are granite and must have been carried by the ice from the mainland.

On Inishere and Inishmaan there are no trees, but on Inishmore a few are found in one protected hollow on the east side.

The people are industrious and versatile; the Aran man is half farmer and half fisherman. There are, however, a few specialized craftsmen such as weavers and boat-builders.

The natural soil, though very nutritious, is scanty, so the islanders are continually 'manufacturing' new land on the surface of the bare rock. This is slow and hard work. First the boulders are broken up with a sledge and the broken pieces filled into the crevices, then alternate layers of sand and seaweed mixed when possible with scrapings from the side of the road are laid on the rock. All this soil is carried in baskets (panniers) by the donkeys and ponies and also frequently by baskets (creels) on the backs of the men and women themselves. The ridges are broad and the bottom of the furrows is the naked rock.

When the field is completed it is surrounded by a wall built of loose stones, which serves the double purpose of protecting the crop

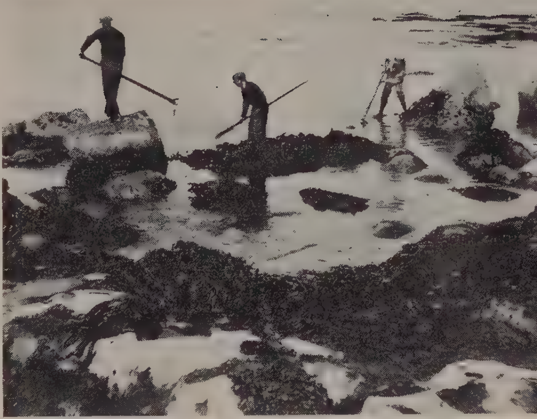
(Top) *Deep fissures in the bare rock characterize the surface of the greater part of the Aran Islands.* (Middle) *'Manufactured' soil in which potatoes are grown. The shallowness of the soil above the rock can be seen.* (Bottom) *Sunday morning in Aran: the islanders, who are intensely religious, coming back from Mass* from the wind and from depredation by straying animals. Splendid crops of potatoes are grown in these 'manufactured' fields.

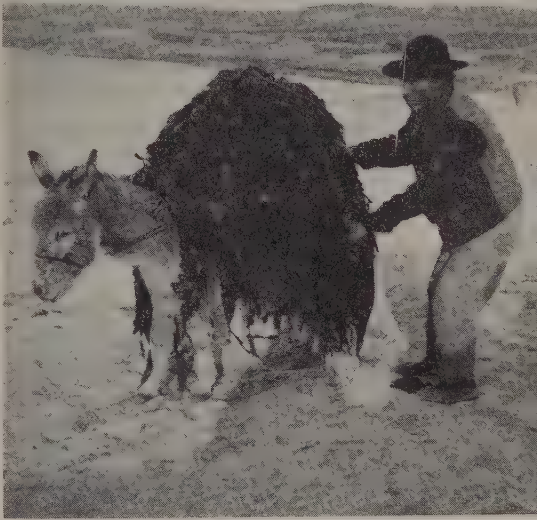
Seaweed is an excellent fertilizer, rich in potassium salts. After a storm numbers of the men may be seen up to their waists in the sea gathering the weed which is one of the most valuable assets of the islanders. On the western coast of the mainland, in places where the seaweed is not easily procurable, the population is small, but, where there is easy access to the sea, a larger population exists whose main sustenance is derived from agriculture.

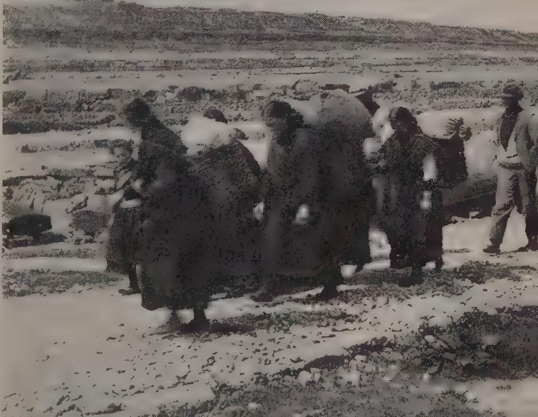
On Inishere at low tide I have seen the men cut the weed from the rocks by means of knives made from hoop iron attached to the end of poles. Working between tides with a short time-limit is strenuous, as the wet weed is heavy and must be placed above high-water mark. The men in the water gather large armfuls and dump it at the edge of the sea, where it is loaded into creels. These are carried on their backs by youths and young women to a safe distance. The girls must be very strong, for the work would be beyond the capacity of an ordinary city man. To protect the back and loins from the water a dried goatskin is worn over the ordinary clothes.

As a fertilizer, the seaweed may be used wet, but it is more easily transported when dry. Donkeys do most of this work, even the poorest family owning a donkey; but ponies are not so common. Not merely in the islands, but along the whole western seaboard, the donkey is the most useful animal. Some of the seaweed which is allowed to dry is put into stacks and during the early summer it is burned in kilns on the shore for conversion into kelp.

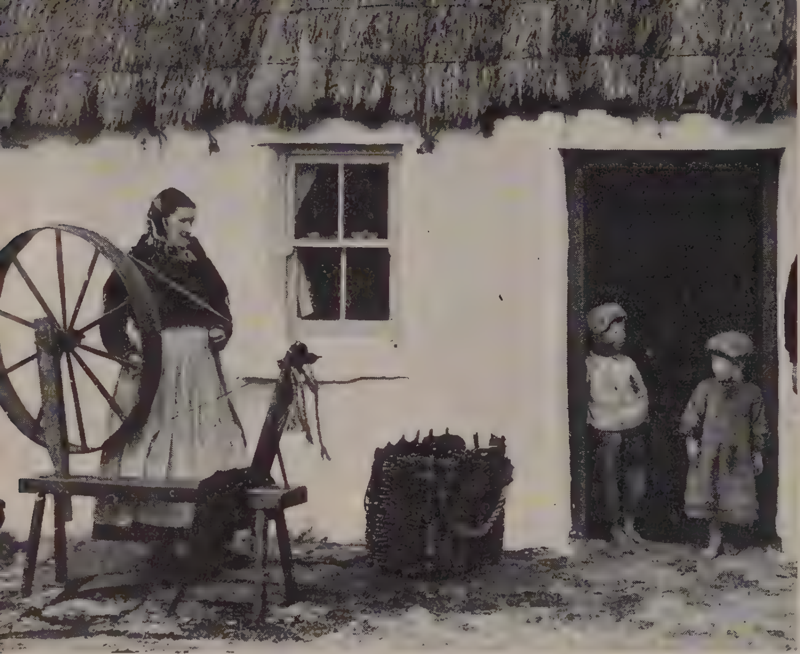
Kelp is a hard substance that looks like concrete and from it iodine is extracted. In recent years not much kelp has been made as the price was low and did not compensate the islanders for the heavy labour involved. Another form of seaweed called carrigeen moss is also gathered. It is used in making table jellies, for medicinal purposes in chest troubles, as a filler for cheap textiles and a thickener for paint. Scotland is the principal market for the kelp and Lancashire for the







(Top) *Reaping seaweed at low tide. It is cut from the rocks by a hooped iron knife attached to a pole.* (Middle) *The islanders' best friend carries a load of seaweed to be used as fertilizer.* (Bottom) *Women carry loads in baskets called creels on their backs*



The art of spinning has not died out in the Aran Islands. This large primitive type of wheel is still used, and rotated by hand

Waiting on the strand at Inishmaan for the arrival of the steamer which will carry the livestock to mainland markets

Cattle are roped by the head and towed by small currachs out to the steamer. The noise and excitement that accompany the operation add to the poor creatures' fright carrigeen moss; both are purchased and shipped by local agents.

The women have less arduous tasks as well—they milk the cows, make the butter, help in the field work and look after the poultry, besides performing the usual household duties of their sex. The only clear-cut division between the work of the men and women is in fishing, which is the men's job, and in cooking, washing and spinning, which are exclusively feminine occupations. The art of spinning has not died out and the women knit jerseys, socks and tam-o'-shanter caps for their men folk, from the wool of their own sheep.

The type of spinning-wheel used is very primitive. The wheel, which is large, is rotated by the hand of the spinner who stands beside it. In the northern areas of Ireland a different type is used. It is worked by a foot-treadle and is a much more elaborate piece of mechanism. Known as the Dutch wheel, it was introduced in the 17th century but does not seem to have spread further than the districts where flax is grown. In the woollen districts the older type is still in use.

The food is simple. Fresh meat and bacon are not eaten every day and the staple diet is potatoes boiled in their jackets, fish, milk, butter, eggs, cabbage, home-made bread and tea. The bread is baked in a large iron pot suspended over the turf (peat) fire, which burns without a grate on the stone hearth, with a gentle glowing heat, very different from the fierce heat of coal. Hot embers are placed on the lid of the pot and the result is delicious. Unfortunately there is no turf on the islands and it has to be imported from the mainland of Connemara in hookers. The supply of fuel is augmented by twigs, chiefly bramble, which are used solely to boil water, and also by dried cow-dung. This latter gives out a great heat but the smoke is very acrid.

Although the islanders live simple lives with few wants and no luxuries except tobacco and porter, yet, as the war has taught us all, no community can be entirely self-sufficient. In Aran money must be found to pay for imports such as tea, sugar, flour, turf, tobacco and for other payments in lieu of rent to the Irish Land Commission. The ready cash is provided by the sale of pigs, cattle, eggs and wool to the merchants of Galway City, and in a smaller degree by the export of kelp, edible seaweed, fish and lobsters.

There is a harbour at Kilronan, the chief village of Inishmore, but there is none on Inishmaan or Inishere, and the export of live stock is an exciting and hazardous operation.

Shipping pigs is simple but noisy—their legs are tied together and they are dumped in currachs which bring them to the steamer. The whole performance is accompanied by the unearthly noise of the squealing pigs. Horses and cattle, however, are a more difficult problem. On the day before one of the great fairs in Galway they are collected on the strand where they await the arrival of the steamer.

From an early hour there is a hustle and excitement very different from the usual calm and placid life of the islanders. The road to the beach is thronged with men, women, children and livestock. The school is closed, and the men who have no beast to ship come to help their neighbours to control the cattle and horses, for sometimes, terrified by the noise and shouting, they run amok.

When the steamer arrives the real work of the day begins. A long rope is tied around the head of the animal and other ropes are fastened in a loop around its body. It is then hustled by shouting men and barking dogs into the sea and pulled into deep water by the rope fastened to its head. The cattle make no attempt to swim and their nostrils are kept above the water by the man in the currach, who, leaning over the stern, clasps his arms round the neck of the beast.

On arrival at the steamer an iron hook is lowered which the man in the currach places in the loop of the rope fastened about the body. In order to fasten the hook the man in the currach has to release his hold of the animal's head, when it invariably sinks for a few moments. This is a critical time as, if the job is bungled, the beast may drown. The noise throughout the performance is terrific: everybody is shouting in Irish, the dogs are barking and the excitement is intense.

There are, however, other factors which play a great part in the economics of the islanders. Large families are the rule; it is a social stigma to have only a small family and the childless married woman is an object of mingled pity and contempt.

The islands can only support a limited population, especially since the decay of the fisheries, due to illegal trawling by boats of all nationalities, so the great majority of the young people must emigrate. In the past this emigration was almost entirely to the U.S.A., where in Boston and some other towns there are regular colonies of the island folk.

These emigrants never forget the old people at home and at Christmas-time some thousands of pounds from America form a

'Himself' and 'Herself' at their own fireside

welcome addition to the income of the island. The old-age pension has also been a great boon, for in Aran there is an undue proportion of old people in the population.

The pension is not paid to the possessor of a holding which is large enough to provide a subsistence, but this difficulty is easily circumvented. When the owner has arrived at the age for qualification he conveys the farm to whichever member of the family has remained at home, and being now without income he is automatically qualified for the pension.

In recent years the Irish language policy of the Irish Government has also helped, for during the summer months the island is frequented by students, who must have a working knowledge of the ancient language in order to qualify for the legal profession or a Civil Service job. Irish is the language of the home, but most of the people are bilingual, speaking English with an idiom derived directly from the Gaelic. It has a poetic beauty of expression which is not often found in modern English and comes only to persons who live simple lives close to nature.

Fishing is done from the cliffs but it is mainly carried on by low lines from the frail-looking currachs, constructed of laths covered with tarred canvas. These boats are the direct descendants of the early coracles made of osiers covered with hides. Occasionally heavy wooden boats have been introduced but they were never a success, and the islanders prefer the light, buoyant currachs which are easily handled.

The toll of the sea is heavy; few families have not lost a relative by drowning. The women dread the sea and are never happy when their men are afloat, for they travel long distances into the ocean. The fury of a storm in the Atlantic is a terrible thing, but the men are such superb boatmen that unless it is cyclonic they manage to survive. I have made many journeys in these canvas boats. In calm weather their speed is surprising, and in rough seas I have never felt the slightest anxiety although only a thin piece of canvas was between myself and the Atlantic Ocean.

The boats, which are about 20 feet long, are made on Inishere.

I have seen a man fishing from a cliff 300 feet high; his line was thick and the sinker was a large stone of several pounds weight. He sat with his feet hanging over the edge, and while filling his pipe tied the line to one of his feet. I remarked, "If you caught a conger eel now, he would pull you in," to which the reply "He would so, sir" seemed to partake of that spirit of fatalism which is common to those who live in intimate contact with nature and whose lives are ordered by elementary forces beyond their control.

The costume of the islanders is picturesque. The dark-red skirts of the women and the varied patterns of the shawls which form their head covering are a pleasing contrast to the grey rocks and blue sea.

The factory-made cap has largely superseded the knitted tam-o'-shanter which was much more commonly used when I first visited the islands forty years ago, but the older men still favour the soft felt hat which is also imported. With these exceptions and possibly an occasional jersey, all their clothes are the product of the island.

The tweed is handsome, as a small proportion of wool that has been dyed in indigo is mixed with the natural wool. The trousers are wide with a slit at the end so that they can be easily rolled up when launching a boat. Belts and footwear are unique. The belt, called a 'criss' by the islanders, is brightly coloured and is woven by the women who use the hand as shuttle in the most primitive method of weaving, which was derived from the technique of basket-making. The same type of belt and the same method of weaving is found in some parts of Canada where it was thought to be of Indian origin. Recent investigations have shown that the craft was brought by early colonists from Brittany who taught it to the Indians. It is unknown in Brittany today.

Owing to the difficulty of walking on the rocky surface the natives wear sandals which they call 'pampooties'. These are made of raw cow-hide with the hair on the outside, and to keep them soft they must be frequently immersed in water. Some philologists connect this word with 'pumps' (dancing shoes), others connect it with the 'puttees' worn by soldiers; but, whether it be of French, Teutonic or Sanscrit origin, it is a peculiar word only to be found in the Aran Islands. The use of these sandals imparts a fine carriage to the islanders, who walk on their toes and not on their heels as does the ordinary walker who uses heeled boots.

Both sexes are good-looking and many of the men have a distinctly aristocratic appearance, with clean-cut features and well-developed noses.

It is strange how the racial type has persisted throughout the centuries—I have seen dwellers on the shores of the Mediterranean who were the exact counterpart of men I know in the Aran Islands.

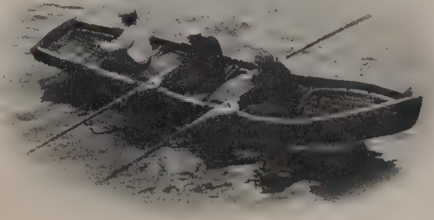
Transport is carried on by donkeys and ponies. On Inishmore there are carts but their usefulness is confined to the main road, which is on the east side of the island. The small laneways called 'boreens' which traverse the island are too narrow for wheeled traffic. On Inishmaan there is only one small cart which is used to convey barrels of porter from the slip to the public-house. But on Inishere there is not a single wheeled vehicle.

Motor cars are unknown but a few summers ago a misguided visitor brought a motor bicycle to Inishmore. The result was catastrophic as the noise stampeded every animal on the island; so the infernal machine was put into storage for the remainder of his holiday.

The antiquities of the Aran Islands are interesting, especially those of the Iron Age and early Christian pre-Norman period, which are numerous. Dolmens dating from 2000 B.C., stone forts about 100 B.C. to A.D. 200, Pagan and Christian cells, early oratories dating to the 6th century, a round tower, crosses both sculptured and simply incised, churches with chancels dating to the 10th century — all are there; a paradise for archaeologists.

The people are clever; they do well when abroad, and have produced writers and artists of genius — Liam O'Flaherty the novelist, Barbara Mullen of film and radio fame, and strangest of all, a well-known town-planning expert, are Aran Islanders. In Aran one finds a dignity and courtesy, a charm of manner which is impossible to describe—the people are gentlefolk in the natural and highest meaning of the word. I have many pleasant recollections of the evening chats around the fireside, when I was privileged to join the group, for conversation is their principal recreation.

As I have written elsewhere, I shall always remember a conversation on the steamer with an Aran man going to Galway Fair to sell a cow. He asked me about my holiday in Aran, and when I said that I had enjoyed it, adding that I found the people courteous, he was astonished and said, "Well, and isn't it a proper thing to be kindly to strangers?"



The Story of Kintup

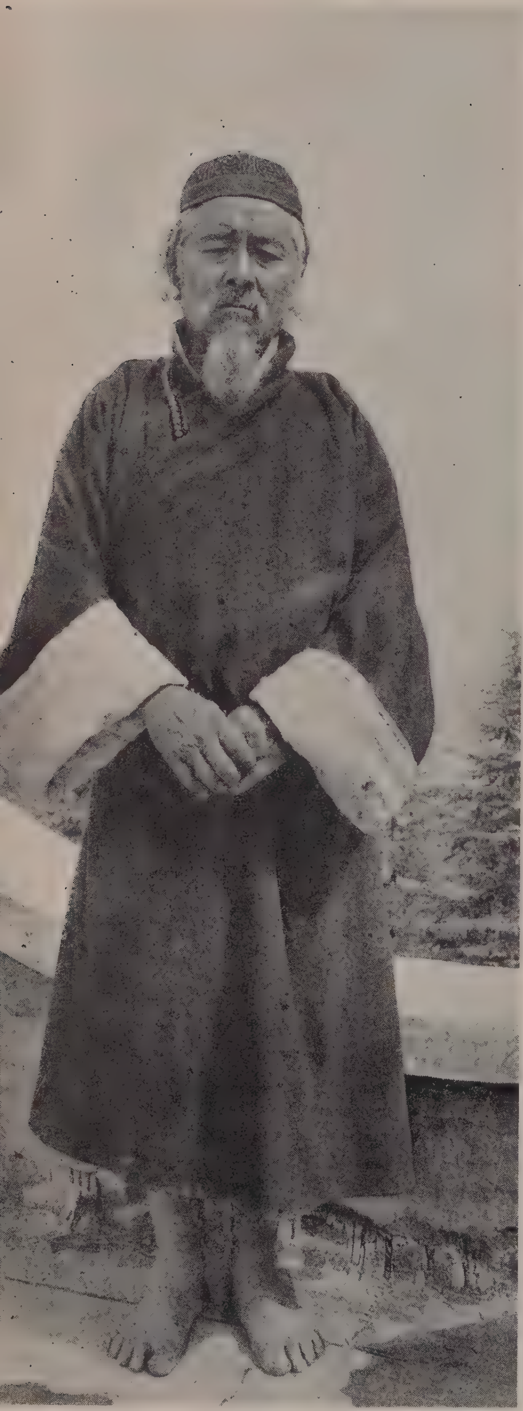
by Lt.-Col. F. M. BAILEY, C.I.E.

In the middle of last century there were large tracts of unexplored country north of the Himalayas. The inhabitants had no desire that it should be explored or to allow strangers, whose purposes they could not understand, to travel about.

It was this situation which led the Survey officers to train a little band of Indians, known as 'The Pandits', and send them out to complete the arduous and often dangerous work of surveying and mapping.

The Pandits had to find their objectives secretly, since the native people were often hostile. They travelled in disguise, without passports or credentials. So that they should not be identified, and victimized, they were officially known by certain initials and not by name. If they got into difficulties they had to extricate themselves as best they might, without looking to the British Government for help.

The thrilling stories of these wonderful men can now be read only in obscure Government publications or in an abbreviated form in the pages of geographical journals of the 'sixties and 'seventies. There you may read of 'N. S.' or the 'First Pandit' (Nain Singh, C.I.E.) who on one of his great journeys passed through Nepal where he was foiled in his first attempt to cross the northern frontier into Tibet and finally succeeded in reaching the great plateau and exploring the country towards the sources of the Tsangpo, Sutlej and Indus. There will also be found the story of A. K., perhaps the greatest of all, whose three years' journey disguised as a pilgrim took him from India through Tibet and Mongolia to western China, whence he travelled towards Assam. But being unable to penetrate the tribal country on the frontier he was obliged to return to Lhasa to find his way to India from there. The portion of his journey from Rima, where he was turned back by the savage tribes to Lhasa, was perhaps the most im-



A photograph of Kintup taken in 1913, when, thirty years after his secret explorations were completed, he was found in Darjeeling and brought to Simla to tell his story again

Major G. Burrard

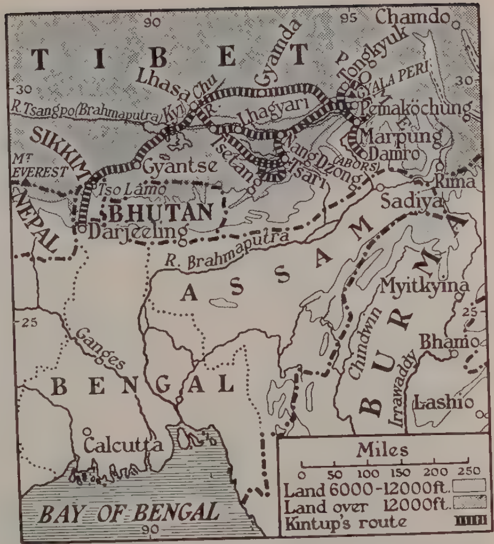
portant of all, since as his road did not cross the Tsangpo he proved that that river must flow into Assam west of Rima. This man counted his paces during the whole of these three years except for a few days in Mongolia, when he was obliged to ride as no members of his caravan travelled on foot in that country, where indeed man, woman and child live on horseback.

Another, who is believed to be the origin of the Bengali Babu in Rudyard Kipling's *Kim*, is D. S. (Rai Bahadur Sarat Chandra Das, C.I.E.). He had a great advantage over his fellow secret explorers in being well educated and cultured, as his notes on the things he saw are fuller and more interesting than those of his less competent contemporaries.

All were not equally successful; the results of some were found to be unsatisfactory when checked by the stories of others; one is described as "wanting in nerve". This is not to be wondered at when we consider the danger they ran in case of detection. Their instruments were concealed in the false bottoms of their boxes or in the prayer wheel which every Tibetan pilgrim carries, while the rosary used for counting their *Manis* (the number of times the pilgrim has recited the formula *Om mani padme hum*, "Hail to the Jewel in the Lotus"—Buddha is usually figured in pictures and images as sitting in a lotus) was most useful for counting the explorers' paces, especially when made of 100 instead of the usual 108 beads. Quicksilver necessary for observing the altitude of stars with the sextant, was carried in a coconut, or in hollow cowrie shells stopped up with wax.

We are here concerned with K. P., whose results were not so reliable as those of the trained explorers but whose perseverance in the face of dangers was surpassed by none and whose story is perhaps the most exciting of all.

Kintup, to give him his real name, was an inhabitant of Sikkim, unable to read or write a word in any language. The Survey of India had trained a Mongolian Lama and ordered Kintup to accompany him as servant. They were to endeavour to trace the river Tsangpo from Tibet right through to the plains of India and to settle definitely the question whether there were any great falls during its descent from the plateau of Tibet. If they were unable to follow the river the whole way, they were to mark a number of logs and throw them into it in order that its connection with the Dihong which flows from the Abor Hills into the plains of Assam could be confirmed. An explorer, G. M. N. (Nemsing), had previously been sent down the river but had not succeeded in tracing the river below a level of about 9600 ft., and as his survey, in the words of the official report, "ended in air", much reliance could not be placed on it.



Stanford, London

Kintup had accompanied G. M. N. on this expedition as his servant and for this reason was sent in a similar capacity with the Mongolian Lama. The two men left Darjeeling and crossed the northern frontier of Sikkim, into Tibet in August 1880. At Tso Lamo, a beautiful lake situated among immense snow peaks at a height of 17,000 ft., they found the traders of northern Sikkim exchanging merchandise with the people of Gyantse. The two travellers joined the latter in the guise of pilgrims and accompanied them to their home, whence they proceeded to Lhasa.

The Mongolian Lama had previously spent some time in Sera, one of the three great monasteries of Lhasa, and he now feasted his old companions there for six days. The travellers then returned by boat down the Kyi Chu which flows past Lhasa and eventually reached Tsetang, a town on the south bank of the Tsangpo. Here the Lama fell ill for twenty days and treated Kintup very badly. The next place of any importance they reached was Lhagyari where a semi-independent chief dwelt. After rejoining the Tsangpo they continued down the valley, stopping in caves or villages and begging as pilgrims do. A pilgrim can travel over any inhabited part of Tibet trusting entirely to the generosity of the inhabitants. For it would be an act calling for condign punishment in the next world to allow a pilgrim to starve.

Lt.-Col. F. M. Bailey

(Left) *A woman of Pemaköchung.* (Middle) *Men of Pachakshiri, a country bordering on Tsari where Kintup performed a pilgrimage.* (Right) *A Poba from the country where Kintup was enslaved*

Though the people must, one would think, feel that a man was carrying his religion too far when he had himself shut up in a cell for three years relying on the faith of the inhabitants of the nearest village to keep him alive. Perhaps pilgrims were equally sure of their sustenance in our own country in a less material age.

Nang Dzong was the next place of any size reached. Kintup's report on this is as follows: "At the next *jikyop* (rest-house) which they reached they noted a stream which issued from the interior of Nang Dzong and flows in a northerly direction, joining the Tsangpo at a distance of five chains from Nang Dzong. The Tsangpo which was on the left flows towards the east." It was from such quaint scraps of geographical information that the survey officers compiled the map which has proved to be remarkably accurate.

Leaving the river for a day here the pilgrims crossed a pass on which were "many barbarians and many herds of wild sheep". "It is very difficult to cross in stormy weather." At one place they were delayed four months "owing to the Lama falling in love with his host's wife". They continued their journey after settling this little difficulty by paying 25 rupees and eventually reached a monastery, Pemaköchung, below which there was no road, the river flowing through gorges among high mountains. Here was found the steepest fall in the waters of the great river which Kintup reported to be about 150 ft. This was a considerable exaggeration as was afterwards proved, but was due to a misunderstanding or mistranslation of Kintup's words. The two pilgrims then returned up the river and proceeded to travel round the gorge with the intention of striking the river below and following it to India.

After travelling for some days they reached the frontier of the semi-independent district of Po-me, the inhabitants of which are notorious as robbers and are the terror of all the more settled parts of the country. They were stopped at a bridge on the frontier and the Lama went to interview the local official in order to obtain permission for them to enter the country. Kintup was meanwhile left at the bridge. A few days later the Lama returned with the necessary permission and the two pilgrims went to stay at the house of the official, with whom the Lama seems to have made friends.

The Lama now determined not to pursue the quest any further and perpetuated a great act of treachery against his comrade. He told Kintup to stay where he was until his return in two or three days. When two months had elapsed and no signs of the Lama were forthcoming, Kintup's suspicions were aroused, and he found to his horror and dismay that the Lama had sold him as a slave and decamped. In the words of his report, "He understood then why the Jongpen (official) would not let him go anywhere about the place".

It must be remembered that owing to robbers it would have been impossible for the party to carry large sums of money and that whenever they stopped for any time they were bound to work for their food and subsist on this and on the charity bestowed upon pilgrims. As his leader had treated him so treacherously his first thought might well have been to get out of the country and return to his home; but it was not; on the contrary he thought only of the continuance of his quest which had been so unfortunately interrupted. He remained as the slave of the official for ten months before he got his long hoped-for opportunity, but in March 1882 he succeeded in escaping and continued his journey which had been interrupted on the diversion necessary to avoid the gorges below Pemaköchung.

He reached the Tsangpo after some days and travelled down it until he reached a monastery called Marpung. Here he heard that his master had sent men to arrest him; he went to the head Lama of the monastery, bowed thrice at his feet and begged for protection, saying that he was a pilgrim who had been treacherously sold by his companion. The Lama took compassion on him and, when his pursuers arrived, paid them 50 rupees and kept Kintup with him as his own slave. Kintup served him for four and a half months and then asked for leave to go down the valley on a pilgrimage. The permission was readily granted.

Among the equipment supplied to the two explorers by the survey officers who sent them out was an instrument for boring holes in wood, and a supply of small tin tubes each containing a written paper. The tubes were to be inserted in holes bored in logs, which were then to be thrown into the river. Kintup in the course of his adventures had lost the gouge but had managed to keep the tin tubes. He travelled some days down-stream and then cut 500 logs (no mean task single-handed), and opening up his tin tubes he threw away the papers he found in them and bound the tin on the outside of the logs with strips of bamboo and hid the whole in a cave on the bank of the river. It would have been useless for Kintup to have thrown his logs into the river until warning had been sent to India so that watchers could be placed to look out for the arrival of the logs.

Kintup's next care was to see how this could be done. He returned to his master and served him for two months more, after which he asked for permission to visit a holy place called Tsari, which was again granted.

Kintup, in performing the pilgrimage of Tsari, found that on one pass, the Dröma La, no woman was allowed to go, and gives the following explanation: "The reason assigned is that formerly a goddess named Dolma, who wished to judge the moral behaviour of men and women, laid herself on the path-way at the summit of the pass. A man came by and found the road blocked by the goddess, who was disguised. So he asked her with kind words to get out of his way. In reply the goddess said, 'My brother, I am so weak that I cannot stir; if you pity me, please find another road; if not, cross over me.' On hearing this the man took a different road. After a short time a woman passed that way and she also saw the goddess and told her to give way; the same reply was made by the goddess, but the woman crossed over her and went on. Therefore from that day women have been forbidden to pass over, and from that day the name of the pass has been known as Dolma La or Dröma La."

Years later I visited this holy place, and committed the serious offence of slaying a stag! I begged the people to tell me the best way of expiating this sin, and was told to go and do the pilgrimage, but to be sure that I did not take the life of even the smallest maggot or insect in doing so. The journey round took me eleven days and in due course I reached the Dröma La. Having Kintup's little anecdote in my mind, I asked the people the reason for prohibiting women from crossing the pass. An old and crusted monk replied: "Well, you know what women are; they lie, they steal, they cause every kind of trouble, commit every sort of crime . . . we want none of them here!"

Kintup's object in getting permission from his lama-master to go to Tsari was really to get a message sent to India to warn the survey officers to look out for his logs, so after performing the pilgrimage at Tsari he went on to Lhasa where he had the following letter written to the "Chief of the Survey of India":

> Sir,—The lama who was sent with me sold me to a Dzongpen as a slave and himself fled away with the Govt. things that were in his charge. On account of which the journey proved a bad one; however I, Kintup, have prepared the 500 logs according to the order of the late Captain Harman and am prepared to throw 50 logs per day into the Tsang-po from

Bipung in Pemakoichen, from the 5th to the 15th of the 10th Tibetan month of the year called Chhuluk (water-sheep) of the Tibetan calculation.

In Lhasa he found a 'Kazi of Sikkim' to whom he entrusted the letter for delivery to the Surveyor-General through 'Nimsring'. This Nimsring or Nemsing (probably more correctly transliterated Nyima Tsering, meaning Sunday-Long-Life) was the explorer G. M. N. whom Kintup had accompanied some years previously, in his attempt to follow down the mysterious river.

At this point Kintup must have been sorely tempted to give up and return. He had been nearly three years out in Tibet on this hazardous work; he had been betrayed and deserted by his companion; he was not himself a trained explorer; he had already collected a mass of useful information; he had to face a life of slavery with an unknown future. On the other hand, here he was at Lhasa among friends from his native land of Sikkim, and nothing would have been simpler than for him to have walked off with them to his home. He, however, always kept his objective in view. He had to go back and throw those logs into the river. So putting aside all temptation, he returned to his master in the gorges of the Tsangpo. The distance as the crow flies was 250 miles and 'as the beggar 'ops', a great deal longer. He even travelled by another and longer road to collect further information.

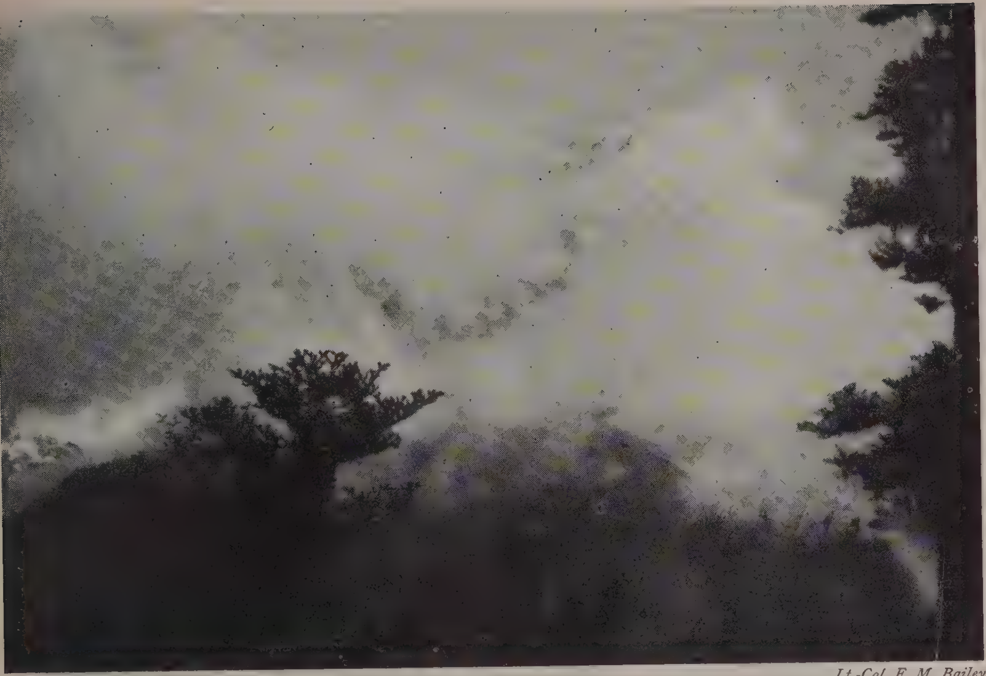
He then served his master for another nine months when he again asked permission to perform a pilgrimage to a holy mountain. The Lama now set him free saying, "I am glad to see you visiting the sacred places, so from today I have given you leave to go anywhere you like." He then went back to his cave and on the correct days threw the 500 marked logs into the river. Now that his task was completed he wished to return to India. His nearest road as well as that which would have furthered his object, was to follow down the river to India. This road entered the territories of various tribes whom we call collectively Abors. After working for a month to obtain a little money for the journey, he started. At great risk he penetrated some distance among these savage tribes. At one place he notes that the people are "said to eat dogs, snakes, tigers, leopards, bears, monkeys, etc." At another place he was arrested "but got free by paying 306 anna coins". For a night's shelter he "had to pay a handful of salt to every man and woman that were in the house". Eventually when at a distance of thirty-five miles, as he guessed, from the frontier of India, he could get no further and was obliged to retrace his steps to Lhasa, whence he reached his home in northern Sikkim. Here owing to the death of his mother he remained ten weeks and finally reached Darjeeling to make his report on November 17, 1884, after an absence of nearly four and a half years.

Two disappointments were in store for him: first, Lieut. Harman, the Survey Officer who had trained him and sent him out, had died; secondly, the letter which he had travelled hundreds of miles to despatch from Lhasa, had been received by Nimsring after the date on which Kintup had said he would throw his logs into the river. This being so, Nimsring threw it away and did not trouble to deliver it. As a consequence no one was on the look-out for his marked logs and they doubtless drifted unseen out into the Bay of Bengal.

Other disappointments were in store for poor Kintup. On his arrival in India his story was doubted. He was, of course, paid his bare wage, but no special rewards were given to him and his reports were pigeon-holed until the savage Abors gave trouble in 1911. The reports were then brought out, as they were the only sources of information on the country north of the tribesmen in existence.

It happened that a couple of years later the late Captain Morshead, of the Survey of India, and I were given the opportunity to follow in Kintup's footsteps. It was found that the whole story was remarkably accurate. The educated mind relies largely on the written word—we even make lists of our daily trivial duties. The uneducated mind retains a far surer memory. Which of us with no written note could give details of mileage, approximate size and description and relative position of villages we had visited years ago? Kintup gave these details and, although he occasionally made mistakes in estimating distances, and even in the order in which various places came, the information he brought back was on the whole accurate. We felt that such devotion had been inadequately rewarded and made it our duty to find Kintup if still living.

In the thirty years which had elapsed all trace of him had been lost. He was eventually found working in Darjeeling and was interviewed and his story again obtained from him. As told at that time it varied from the official report of thirty years previously in one or two points, and varied towards further accuracy, which led one to the conclusion that he had been incorrectly reported or



Lt.-Col. F. M. Bailey

Gyala Peri, a snow peak directly over the falls of Shingche Chögye described by Kintup

translated in 1886.

One of the differences was, perhaps, the most important of all. This huge river, proved afterwards to be a mile and a half wide where it flows over the Tibetan plateau, dropped about 8000 ft. in a straight-line distance of 100 miles. Falls of immense size might account for this. Kintup's report said, "The Tsangpo is two chains distant from the monastery (Pemaköchung) and about two miles off it falls over a cliff called Sinji-chogyal from a height of about 150 ft. There is a big lake at the foot of the falls where rainbows are always observable."

This proved to be untrue, but the name Sinji-chogyal was the clue to this mis-translation of his report. At the village of Gyala a small stream joins the Tsangpo. This stream falls 150 ft. over a cliff, and behind the waterfall a deity called Shingche Chögye is carved or painted on the rock. Pilgrims visit this place and consider that they have achieved a success if they can see the god through the falling water. This stream joins the Tsangpo at a quiet portion of the river which might well have been described by Kintup's translator as a 'lake'. This fall of Shingche Chögye was not on the main river at all, and Kintup, when describing the place to me in 1913, never suggested that it was.

And now, what about the fall in the main river? This was also found to exist in the form of a very steep rapid in which rainbows were visible. The river at this point narrows to about 50 yards in width and through this gorge it plunges down steeply some 30 ft. All this Kintup described with great accuracy when he was asked about it in 1913. He even compared the height of the fall to that of the house in which he was sitting as he recounted his adventures.

Kintup was given a further reward and died in comparative comfort a few months later.

Such is a very brief account of one of many stories of the secret exploration of the countries lying along the northern frontier of India. There is something reminiscent of Marco Polo in the calm way in which these men accepted long weary delays of months on end. In giving every praise to Kintup and his like, let us not forget the Survey officers who chose and trained these remarkable men and organized the whole exploration. It was not done in any haphazard way but systematically, so that the accounts of one man could be checked by those of others.

First Jump

by E. G. STEVENS

Clambering into the long, sleek fuselage

For two whole days we had drifted around the hangar and the flying field—waiting for the weather to clear so that we could make our first aircraft jump. Two days of nervous tension which even the increasing boredom of waiting couldn't overcome. Twice we had fitted our 'chutes, with nervous fingers fumbling over buckles and straps; twice we had marched out in emplaning formation to where the black bomber's body was quivering to the feel of its 'revved-up' engines; twice we were turned back by the latest 'met' reports just as we were about to clamber in. And many an anxious moment we had spent watching the fitful wind-sock on the far side of the 'drome, and the long, grey rain-clouds scudding in from the sea.

Now—on the morning of the third day—the clouds were lifting and the merest breath of wind was helping them on their way.

"Fit 'chutes," came the flight-sergeant's voice over the microphone. And the listless hangar came to life with the bustle of men helping each other into their harness. Out on the concrete runway the twin engines of 'W for Willie' roared out a welcome as our 'stick' of ten men followed the instructor towards it. Clambering into its long, sleek fuselage you realized that this was only the second time you had been inside a plane—the first time was on the twenty-minute air-experience trip a few days previously—and that you were now going to jump out of one from several hundred feet. Somehow, it didn't make sense.

Now No. 10 was aboard and everybody in position. The calm-faced sergeant-instructor was going round, hooking up the 'static line' on each man's 'chute to its corresponding line in the fuselage. This was your life-line—the line that held you, after you had left the plane, until your falling body pulled the 'chute from its pack and you were airborne. And you watched yourself being hooked up with a concentration you had been unable to muster for the morning paper in the Naafi a few minutes ago.

"O.K., No. 8?" queried the instructor above the roar of the engines. "O.K.," you yelled back, fingering the massive spring-hook and the strong safety-pin. Suddenly 'W for Willie' quivered to an even louder note from the engines, as the plane lurched and bumped its way across the rutted grass to the tarmac. Then the lurching ceased as she gathered speed along the smooth runway and in a matter of seconds you felt a lift of the plane and a corresponding sinking feeling in the pit of your stomach. 'W for Willie' was airborne. Very soon now you would be too.

From your half-sitting, half-squatting position on the floor of the plane you could look across the man next to you and down through the gaping aperture through which you would soon be jumping. Below, green fields, trees and hedges, buildings like dolls' houses and tiny figures. Very tiny figures. Don't look down again, you tell yourself, or you will be funking the drop. You look around the inside of the plane instead—at Nos. 1 and 2, sitting on the edge on opposite sides of the aperture, ready to swing their legs through and jump on the word "Go". Standing over them coolly is the instructor, to whom this is an everyday affair, shouting down at them'

You look around the inside of the plane—at Nos. 1 and 2, ready to swing their legs through the aperture and jump at the word "go"

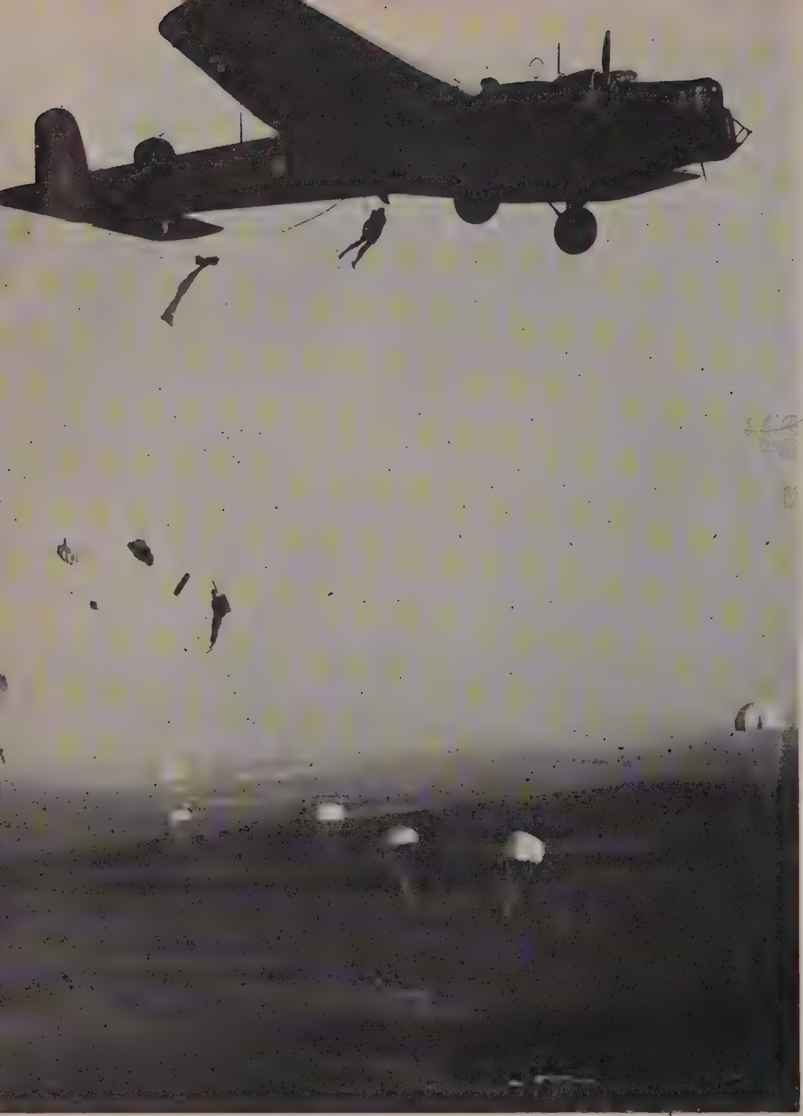
reassuring remarks and friendly chaff. They smile in response, but you notice that the smile is forced, their bodies tense.

No. 10 on your left wipes his face with his sleeve and yells in your ear ". . . bloody hot in here." You nod agreement, insert a finger in your collar, fiddle with the quick-release box on your harness, give yet another glance at your hooked-up static line. Supposing the safety-pin is not secured? Supposing that hook should snap? Supposing, after all, your 'chute won't open? Don't talk nonsense. It must open. Supposing . . . supposing . . . The plane's metallic roar pierces your brain and fills your mind with a whirl of suppositions. Your hands, pressed on the fuselage floor to steady yourself against its swaying, are hot and sticky.

Looking up at the instructor you follow the line of his gaze, fixed intently now on the signal-light panel in the roof of the plane, waiting for the flicker of red light which is the pilot's warning that the dropping area is near. Everybody else in the plane is watching that panel too, with a tense and nervous fascination. Nobody speaks, nobody moves, except No. 1, who, at a nod from the instructor, edges nearer to the lip of the circular hole and shifts his hands to an even firmer grip.

Any second now—we must be nearly there. But these last few seconds seem an eternity and, expectant as you are, the sudden flash of red light in the roof and the voice of the instructor yelling "Action stations, No. 1" impinge themselves almost unawares on your keyed-up brain. But No. 1 is ready and in a split second his legs are through the hole, his body poised taut above it, head pressed back, eyes fixed on the instructor's outstretched hand.

Red light changes to green, and as the instructor brings down his hand (like a schoolmaster starting an egg-and-spoon race is the absurd thought that springs to your mind) his shout of "Go" rises above the engines' constant roar. As though that downswept hand had severed some invisible line attaching it to the plane, the figure of No. 1 poised above the



"O.K. No. 8—GO!"—and you are gone, down through the hole into the rustling wind which fastens on your body and tosses it about

Meanwhile the instructor is yelling "Action stations, No. 2 . . . GO!" and another taut body hurtles through the hole.

This first jump is in 'slow pairs', which means that the plane has to circle the dropping area and make a fresh run-in before Nos. 3 and 4 are despatched. Three such journeys must be made before it is No. 8's turn, so for a while you can relax, with your legs pressed against one side of the fuselage, the parachute on your back propped against the other. Comes a slight swaying as the plane banks and turns, a few more seconds of steady flying, and then the red light is on again. "Action stations, No. 3 . . . GO! . . . No. 4, GO!" Relentlessly the instructor's hand sweeps down with each shouted "Go". Relentlessly the plane moves on to the throbbing engines' note, and the six remaining figures left squatting on the fuselage floor relax and breathe again.

Another bank-and-turn, another sinister wink from the red light, and Nos. 5 and 6 have gone. Next it will be your turn. You slide nearer the edge of the aperture and look down several hundred feet upon the tree-bordered grassland of the target area; upon the tiny figures of the ground instructors; upon a patchwork of fields and woods and streams; upon a grey cluster of houses which you recognize as the village of X; upon the symmetrical gardens and smooth-looking lawns of a large country house; and, further on, as the plane passes directly above the large expanse of a parkland lake, upon nothing but water, spark-

hole disappears into space—and the next thing you are aware of is a startling crash of metal against metal coming from the tail of the plane. Involuntarily you jump, then sigh with relief as you realize it is nothing more than No. 1's static line and empty 'washing bag' (parachute pack) being slapped by a hundred-mile-an-hour slipstream against the underside of the fuselage.

ling in the morning sun. It is fascinating to look down upon a circle of grey-blue emptiness, and, for a second, absorbed in the beauty of space and sunlight, you have forgotten about parachuting—until the void below gives way again to grass and trees and the instructor standing above you is roaring "Action stations, No. 7". On the other side of the hole, No. 7 is swinging his legs into the funnel-shaped opening, and as he drops through, in a perfect exit, to the shout of "Go", you try to murmur "Good luck, Taff". But the words won't come.

Now at last it is your turn, and in this final second everything is clear, your body obeys automatically all the instructions which have been drilled into you in the days of preparation for this moment.

Feet and knees together . . . legs slightly bent . . . hands at your sides . . . head well up . . . ("Take it steady, No. 8"). Just imagine you are on the dummy fuselage in the training hangar, with merely a six-foot drop below you onto a coconut mat. That's all it is . . . nothing to it really . . . just a "piece of cake" . . . everybody says so. . . .

You reach up and grasp the lift-straps of your harness and there above you is the smooth sheen of the silken canopy, dazzling white in the sunshine, supporting you lovingly in the still, new world of silence

"O.K., No. 8—GO!"—and you are gone, down through the hole into the rushing wind of the slipstream which fastens on your body and tosses you, as if by some giant hand, into a somersault onto your back. You are conscious of your legs being whipped above your head, and of them snapping back again. Above you—or is it below?—comes a fleeting glimpse of the plane's silhouette, black against blue of sky and white of fleecy cloud, and then a gentle 'plop' as the air rushes into your already open canopy, and the whirling, roaring confusion of your exit is swamped in a sudden silence, a stillness and peace.

You reach up to grasp the lift-straps of your harness and there above you is the smooth sheen of the silken canopy, dazzling white in the sunshine, supporting you lovingly in this still, new world of silence. You are alone in this world—just you and your parachute—and there is a breath-taking ecstasy, an other-worldly feeling, in this silent passage through space. You want to sing, and whistle, wave and shout. You are airborne, and alone. . . .

Alone? Not entirely. From below, the voice of the ground instructor comes faintly over the microphone, intruding on your ethereal reverie: "What the bloody hell, No. 8? Don't you know you're coming down backwards! Turn round, No. 8. Turn round."

Instinctively your hands cross over on your lift-straps. You pull hard, until parachute responds to straining shoulder muscles and you have turned face about. Just in time. No longer are you floating airily through space. You are thirty feet up and the 'deck' is rushing up to meet you in a whirl of green. Steady now . . . feet and knees tight together . . . watch the ground . . . hold that turn. . . . Bump! You are down and over in a single roll and up again, running round your 'chute before it has time to billow out and whip you away on a playful gust of wind. Out of your harness. Roll up your 'chute. All over. Just as they said it was—"a piece of cake".

* * *

Over at the Y.M.C.A. canteen our section officer is passing round, according to his privilege as first man out of the plane, cups of tea, and cakes and cigarettes. Everybody is laughing and talking at once, each man telling the next about his amazing exit, his wonderful landing, everybody releasing in a flood of talk the pent-up emotion of the last few minutes.

"Cigarette?" asks Lieut. P., as Taffy and I join the group. Never was a cigarette more welcome. "A light?" Lieut. P. strikes a match, lights his own, then mine, and is passing the match on to Taffy, when a look of horror envelops that Welshman's rugged, Gaelic features. Taffy, who a few seconds before dropped unflinchingly through the hole at 800 feet, now seems quite perturbed. "No third match, sir, plea-ss-e. Put it out, sir, plea-ss-e," he insists of Lieut. P. in his sing-song voice. "You see," he adds, above our laughter, "I am ve-rr-y super-sti-tious."

(Below) *No longer are you floating airily through space. You are thirty feet up and the 'deck' is rushing to meet you in a whirl of green.* (Opposite) *You are down and over in a single roll and running round to stop your 'chute from billowing out and whipping you away on a playful gust of wind*

Liberian Landscapes

by MARCEL HOMET

The author of this article is a Frenchman, who, before the war, undertook many missions in West and Central Africa on behalf of his own, the Belgian and the Portuguese Governments, and carried out research in the interests of various scientific bodies. His visit to Liberia was made in 1937. He recently arrived in London and is now working for the British Government

A. R. Lindt

One night in 1821 when the first party of immigrant freed slaves from America had been landed on an island off the coast of West Africa and had all, including sentries, fallen asleep, a large fleet of canoes filled with armed warriors from the interior made its way towards them. Not a sound was made. The thousands of warriors who lay in the bottom of the boats, awaiting the moment to leap forward, held their breath. On the island one negress, half asleep, was finishing her pipe. Suddenly, an assegai fell against a lance. At the sound, slight as it was, the negress started up; she saw what was coming, and in her fright let fall her pipe, which dropped into a

A. R. Lindt

(Opposite) *Liberian Senators on their way to Parliament. In Monrovia, a corner of which is seen in the small picture, two storeys are considered essential by civilized Liberians, whether in houses such as these or in fine stone palaces.* (Above) *A paramount chief of a group of tribes of the interior*

powder cask standing open beside her. The effect of the explosion can be imagined. The negress and her pipe were blown to atoms, the defenders were awakened, and the attackers, appalled by this totally unexpected piece of sorcery, fled as fast as their canoes would carry them. And to this day the people of Monrovia respect the memory of their heroine, the unknown woman with her pipe whose providential carelessness made it possible for the Negro Republic to come into being.

The State of Liberia came into existence as the result of a generous act on the part of the American Colonization Society, beginning in a modest way on the coast, which Frenchmen from Dieppe had first discovered in the 14th century. The United States continued to take an interest in the colony. In 1824 the Rev. Robert Gurley came to assist it, and it was he who gave it the name of Liberia, to commemorate the fact that its inhabitants were descended from slaves who had been set free. In 1833 another State was formed, the Independent African State of Maryland, and later incorporated in the new Republic. The successive Governors of the Republic, and its Presidents, the first of whom was Joseph Jenkins Roberts, had to defend it against the imperialistic designs of its neighbours: cannibal tribes on the one hand and Germans on the other. The latter were far the more formidable. In 1911 they contented themselves with sending the *Panther* to Monrovia at the time of its famous cruise to Agadir; but in 1914 they succeeded in carrying out a sort of occupation, and were driven out only in 1917 by the British and the Americans.

After the independence of Liberia had been recognized by France and Great Britain in 1848, and by the United States in 1862, its history was peaceful—at least in the coastal belt, some twenty-five miles wide, the only part of the country open to foreigners. The majority of these are the American employees of 'Firestone', an American firm which has established huge rubber plantations on its million-acre concession. But next to the Americans, the predominant element consists of Germans who have returned in large numbers. And they are no ordinary settlers; for they include naval officers of high rank and hydrographic engineers working often as commonplace shopkeepers.

In 1937 I made a tour of investigation of Liberia which took me to districts not often visited by Europeans. I must confess that in making my tour I was contravening Liberian law, and rendered myself liable to imprisonment. Although the Liberian police and army have been reorganized by American officers, and though the Monrovia Government gives constant evidence both of its authority and of its good intentions, it is none the less true that in the whole country there are only some 30,000 real Liberians—*i.e.* immigrants—as against some two million Africans, whose civilization proceeds very slowly. And, by a scruple which is to the credit both of the Senate and Chamber of Deputies and of the President of the Liberian Republic, white men—with the exception of a few American missionaries whose self-sacrifice deserves all admiration—are formally prohibited from entering the interior of the country. For this reason I did not go in by way of the coast; for I should at once have been arrested. It was from Macenta in French Guinea, where I was carrying out an official tour of investigation for the French Government, that I entered the forbidden territory.

In a three-weeks march I covered, on foot, 150 miles of wild, rocky country, at first through mountains of over 3000 feet, with precipices down which plunged foaming torrents; a landscape of savage grandeur. Here I was among the tribe of the Tomas, whose ritual dances are performed by men dressed in a complete covering of eagle, hawk and pheasant feathers, arranged in the most curious way, their faces painted with white clay. The dancers, standing in couples face to face, mime an ancient ritual dance of love. Further on the scenery became less rugged; I had come into the Guerzé country, where I saw the marvellous bend of the Vea River, which winds in voluptuous curves through a setting of palm trees, its crystal-clear waters flowing over golden sands.

I had a great many disappointments over those sands. For Liberia is full of gold and diamonds. At every beach I took up some of the sand in a pan which I revolved. Unfortunately I had no luck as a prospector; when I had finished I was no richer than when I started, for the water had carried away the whole contents of the pan!

To the reader sitting comfortably by his fireside such a journey must sound pleasant. And so I found it, taking it all in all, as an explorer who has spent nearly twenty years wandering in remote districts of Africa and Arabia. But there were times when it was not so pleasant. For example, the only way to cross some of the big rivers is by 'monkey bridges', slung, most ingeniously, between two giant forest trees at a height of about 30 or 40 feet. The bridges are mainly composed of three strands of liana, each as thick as a man's wrist, one for the feet, the other two for the hands. Here and there they are linked by other, thinner strands of liana; these are dry and constantly break. The trees from which the bridge is suspended sway in the wind, and this makes the lianas, sometimes as much as 120 or 150 feet long, swing sideways, often over a distance of six to nine feet. When that happens it is better not to look down if you do not want to turn giddy, and you must not miss the middle cable with your feet. For below you, on flat rocks emerging from the water, you can see some hundreds of great triangular teeth shining in the sun. They belong to basking crocodiles.

The Guerzés are almost unknown outside their own country—which is shown on no map that I know of, and their "Brotherhood of the Devil" seems to be entirely unknown. This is a secret society some of whose members have affiliations with the Society of the Leopard-Men, whose acquaintance I made some fifteen years previously not far from the sources of the Nile.

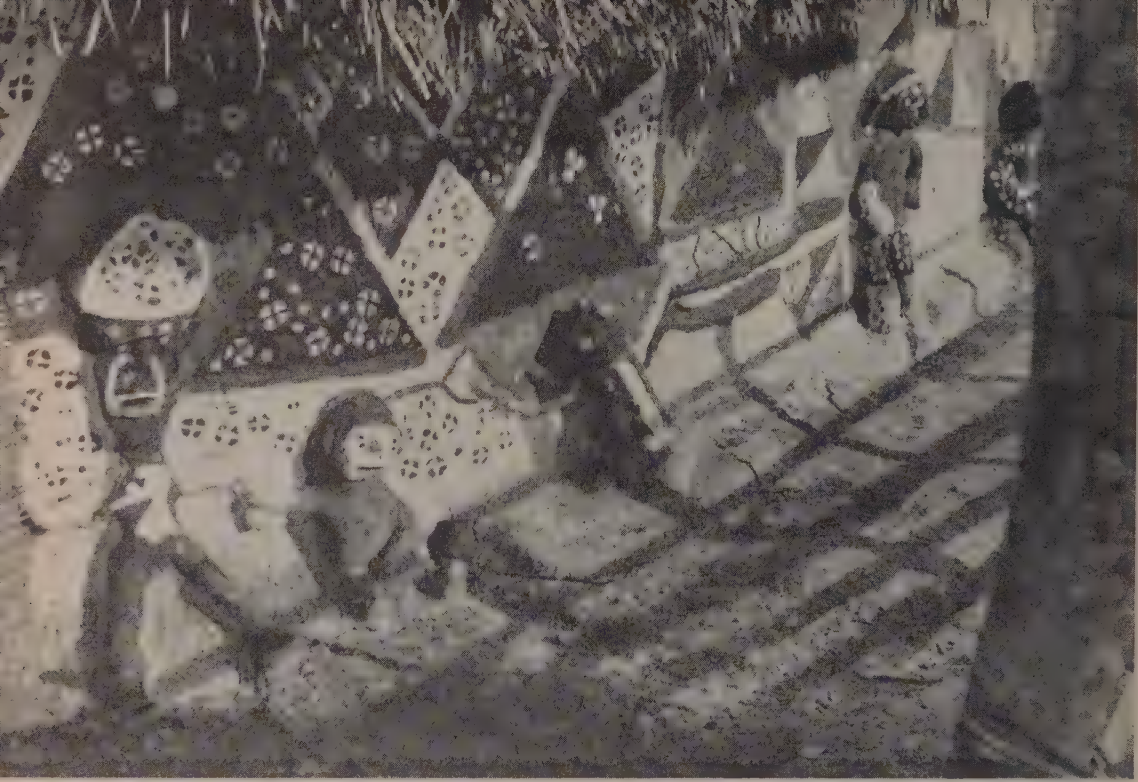
The Guerzés are deeply imbued with fetish-worship; they have practically no knowledge of white men except for the few American missionaries who pass that way from time to time, and generally do not stay.

I remember one night in particular; I was lying, rolled in a blanket, on the hard floor of the hut which the village headman had allotted to me. Before my closed eyes there passed dream-images of the paintings which I had been admiring a few hours before. First of all there was a sort of huge sea-serpent with an extraordinarily shaggy head; then a dragon with legs and three heads, each with a yellow face and almond eyes, and wearing a small, black, pointed cap, quite Annamite in

Marcel Homet

A grove of coconut palms near the coast, which is generally bound by cliffs or fringed with mangrove swamps. The girl sets off her natural charms with a hibiscus flower

style. Finally there were two extraordinary figures with ten heads—yellow too—on the body of a fish with legs, the very picture of an Indian Vishnu. All these figures were passing through my head when, hearing a noise, I woke up, and the beam of my electric torch fell upon a monstrous statue carved in black wood with four arms, two legs and two faces which were surmounted by tall Siamese head-dresses, and were grinning at me from a corner. In other corners of the hut obscene carved figures grimaced at me, while from an



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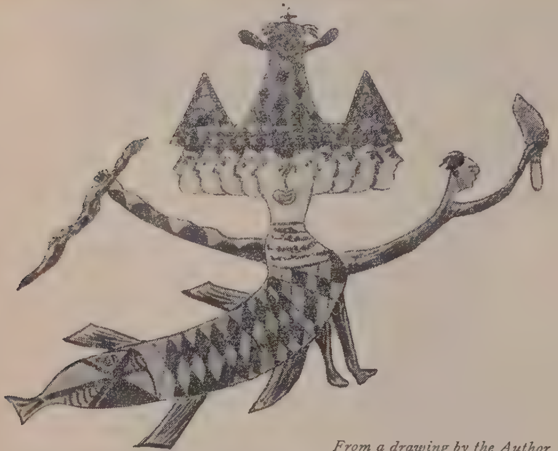


From a drawing by the Author

(Above) *A northern Liberian tribe provide their 'bush devil' with a special hut on the outskirts of their village. It is ornamented with frescoes and clay reliefs.* (Left) *Incarnation of a devil painted on the walls of a hut.* (Opposite) *The herald of a tribal war-dance wears a head-dress of bullock horns, with a female image imposed, and smears his body with chalk*

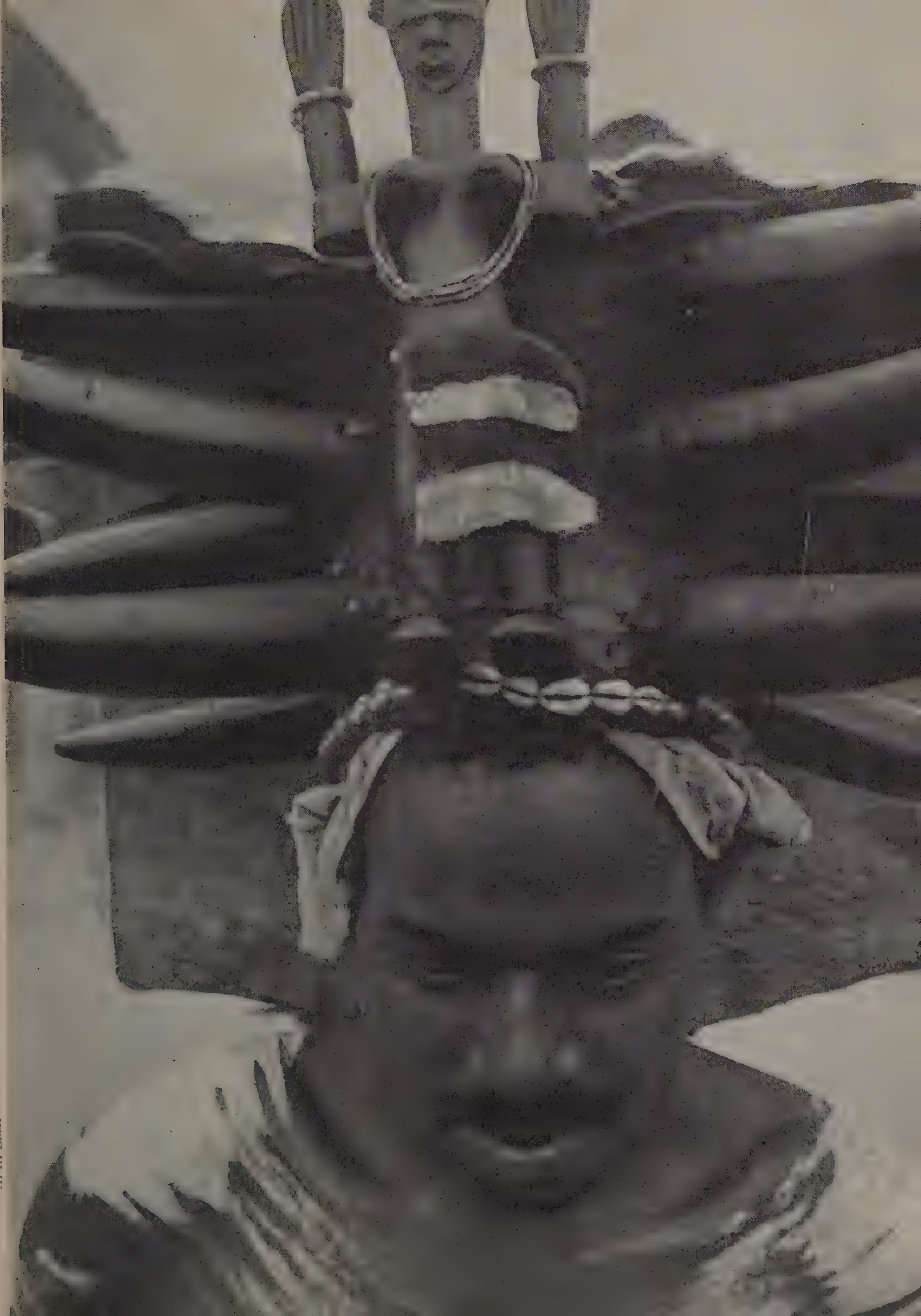
immense cooking-pot there rose the sickly odour of decaying meat.

One day the 'King of the Brotherhood of the Devil' sent for me. I went to see him. Covered with semicircular bands of white paint, his head surmounted by a sort of tiara on which a human head was represented in white paint, he was a demoniac figure.

One night I was awakened by hundreds of warriors, painted in all sorts of colours, their heads covered with feathers. In their hands they carried torches, bows and arrows, and assegais, and they danced in silence around my hut. It was like a spectral vision.

After the Guerzés have been left behind, the character of the country changes; there are great windswept plateaux. The crops are different too: there are manioc, wild cotton, oil-bearing palms, raffia palms and maize; everywhere are herds of black pigs and the little, agile goats found in all parts of Africa. The villages are built on piles, and the huts have enclosed beds like those to be seen in Brittany. A curious feature is that there are no mosquitoes.

On reaching the plains, one encounters



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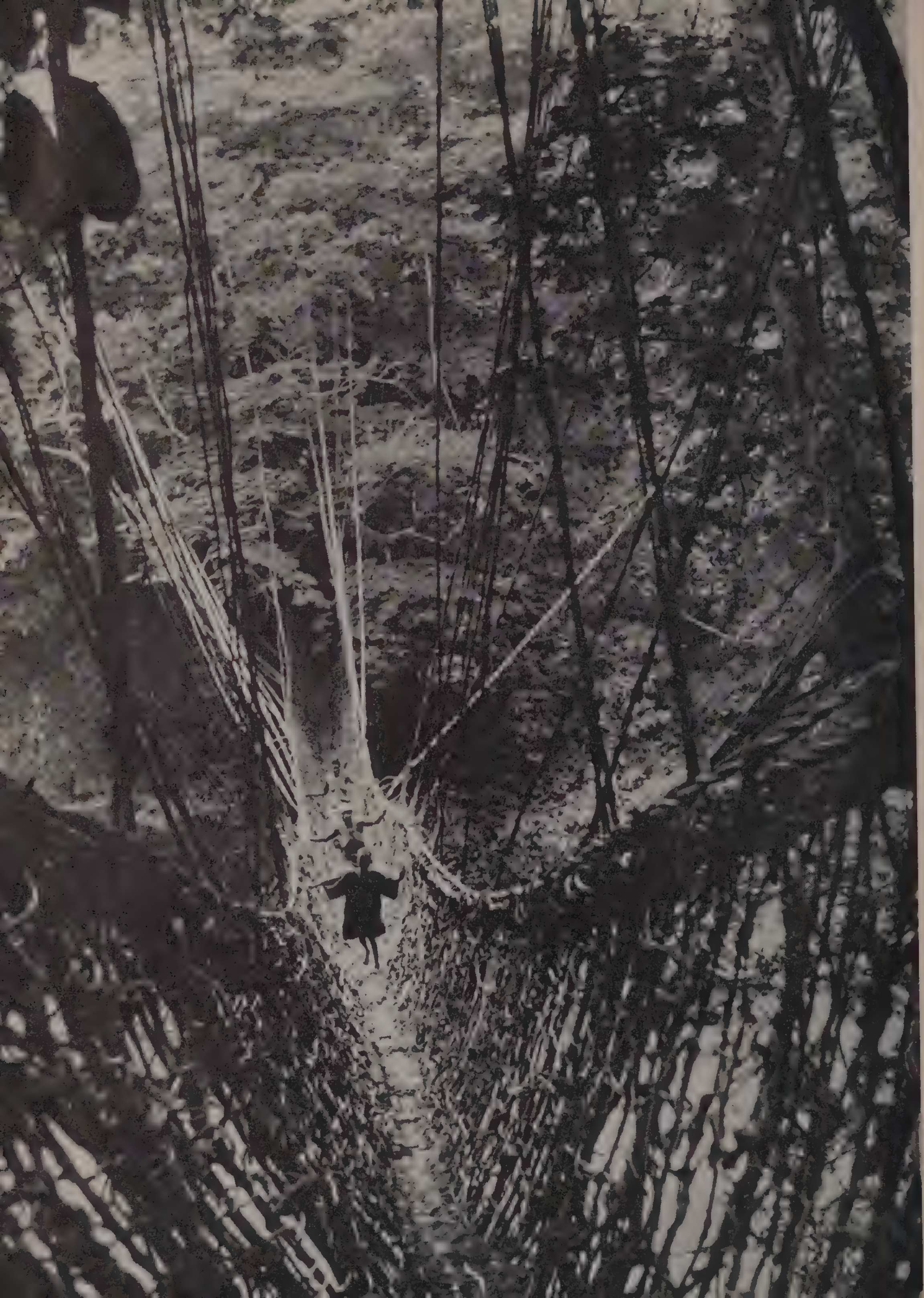


A. R. Lindt

unbearable heat, mosquitoes, and the tsetse fly which carries the dreaded sleeping sickness. There are immense tracks in the gigantic forests, made by the thousands of elephant, buffalo and rhinoceros which we continually heard passing not far from us; they were, however, quite peaceful, as were the panthers and leopards which abound.

Finally, one reaches the coastal belt, and civilization. Monrovia, the capital, has 10,000 inhabitants, who have paid a delicate compliment to the two great Republics of the world by laying out a 'Place de la Concorde' and a 'Broadway'.

One day, coming round a bend in the path at the town of Kakata, I came upon black men, spade and pick in hand, working—rather slowly—on a magnificent road. There were motor lorries, and reinforced concrete bridges were being built. "Who," I asked, "is the owner of the splendid house which dominates the whole landscape in this town where white men are not allowed?" "The representative of the *Woermanns Linie*," was the answer. The Woermanns Linie is a German shipping line, and on the door of its representative's house was pinned up a German map of Africa on which all the former German possessions were marked as belonging to the Reich—in 1938. I naturally wondered what a shipping line was doing forty miles inland. The Germans failed to get Liberia in 1911; they were driven out in 1917. But they came back. This is how it happened.

Iron ore is mined in French Guinea, near the Liberian border. In January 1939 a high official of the French Ministry of Foreign Affairs gave the Reich a concession for them. In Liberia, too, there are mines of this kind, exactly 130 kilometres north of Monrovia; in addition there are considerable deposits of diamonds, while the rivers are rich in gold. In 1938, in spite of the conventions binding Liberia to the United States, Berlin made an attempt to secure possession of this wealth. This was the meaning of the famous contract which Mr. Barclay, the present President of the Black Republic, had the patriotic courage to declare null and void as soon as he learned of its existence. Its provisions were as follows.

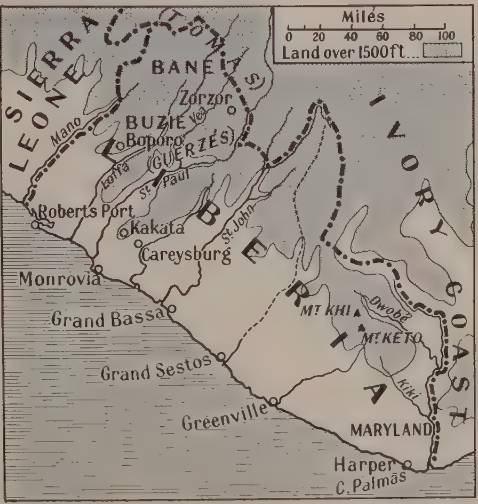
The 'Western Province' is situated to the north-west of the Diani or St Paul River, which divides the area into two parts of unequal size. On the coast there is a fine lagoon, on the shore of which a little town, Roberts Port, has been established. If the lagoon were dredged and quays built, it would make an admirable naval base. As there are quantities of palms, it would be possible to manufacture 100 per cent rectified oil for the Diesel engines of submarines. Then a railway of 130 kilometres would be built from Monrovia, the capital—which would be modernized—to the iron mines, and soon the whole colony would come under Hitler's sway. In order to bring this about, prospectors would be sent to distribute bribes; they would set up shops like the one in Monrovia, which is the largest in the town and which has six obsequious clerks—white men with round, rosy, close-shaven heads.

'*Monkey bridges' made of lianas span many Liberian rivers*

German cargo vessels touched at Monrovia and Cape Palmas, while I was there, and in all the bays and inlets of the coast, negroes wearing the uniform of the Woermanns Linie took careful soundings, while white men (all of them naval officers on special leave) noted down the necessary particulars in thick notebooks.

I embarked at Monrovia on a fine British cargo ship, where—if my British friends will excuse my saying so—the food was very bad and we drank water, and went ashore at Cape Palmas in the south of the country. On my departure, as on my arrival, negro seamen wearing German uniform took me across in their boats.

In 1917 British naval forces gave support to Liberia, which was in danger of being strangled in the grip of Germany. In 1942 it was the Americans, the generous founders of the Negro Republic, who came to the rescue of their adopted sons. The free world should be grateful to them for their action.



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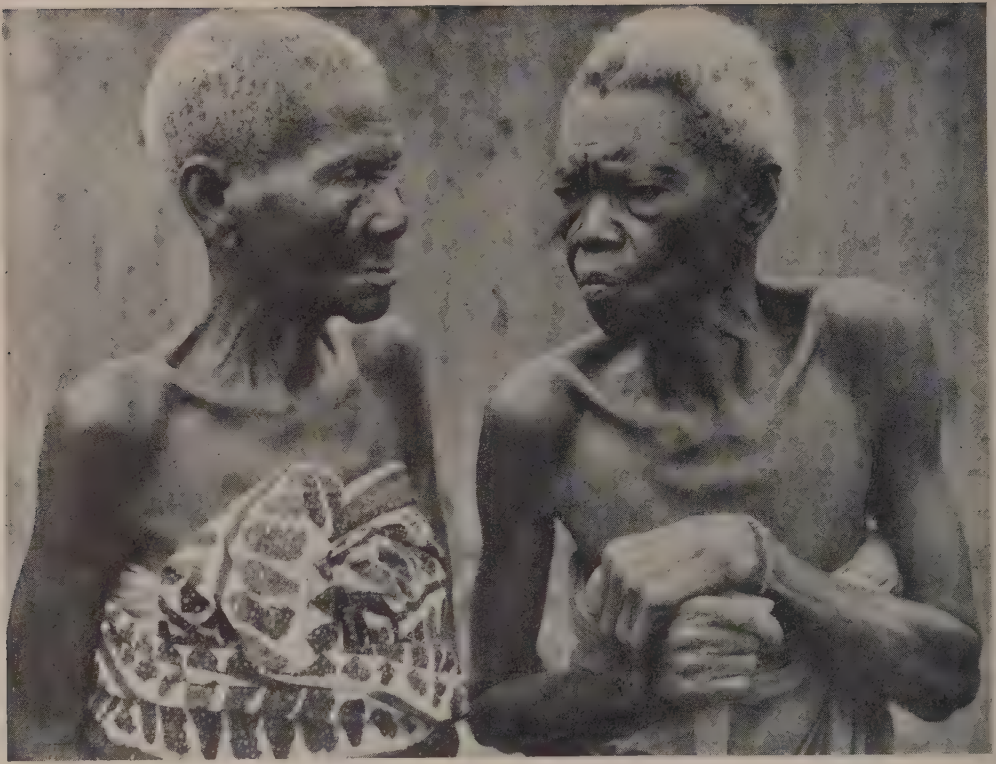


'Our Mothers'

The Amazons of Dahomey

by EVA L. R. MEYEROWITZ

When I passed through Abomey, the capital of Dahomey on the west coast of Africa, I saw the only 'Amazon' still alive. In her youth she fought against the French in the wars of 1894 to 1898 and is now a very old woman, hanging around the courtyards of the former royal palace. She has a terrible face, and one wonders what memories lie behind it.

In 1942 we have become accustomed to women in uniform, and there appears to be no limit to the range of work they can do, with one important exception that they remain ultimately non-combatant. Things were different in the ancient kingdom of Dahomey, which at one time prided itself on an efficient female military force. The women were trained to fight, to kill the enemy and to bring back from the battlefield, as a token of their prowess, heads or jaw-bones of the slain.

This force, called by the Europeans 'the Amazon Corps of Dahomey', was known in the Dahomeyan kingdom by the title of 'Our Mothers' or simply as the 'King's Wives'. It was first raised about the year 1729, when a body of women who had been armed and furnished with banners, merely as a stratagem to make the attacking force appear larger, behaved with such unexpected gallantry that a permanent corps of women was instituted. Nevertheless only women who were criminals were recruited : criminals in the Dahomeyan sense of the word, termagants, wives detected in adultery or simply women given to the king as deserving death for some misdemeanour.

Photographs from Margot Lubinski

(Opposite) *Survivors of the three thousand Amazons who fought for the King of Dahomey in 1894.* (Above) *Dahomey girls of today with elaborate coiffures of tightly twisted pigtails*

A change was made in the middle of last century when King Ghezo raised the Corps from a subsidiary position to a status equal, if not superior, to that of the men, and reorganized it so efficiently that under him it attained its greatest prestige. He was so bold as to introduce conscription for women, and personally supervised the recruiting, from time to time issuing a decree summoning every subject on an appointed day to present his daughters above a certain age at court. There he selected the most promising girls of the aristocracy and made them officers, while the others became ordinary soldiers. The daughters of slave parents became the slaves of the Amazons.

The Corps itself he divided into three brigades, the King's or Central Company, the Right and the Left Wings. Each of these brigades was again divided into four parts with a captain and numerous lieutenants to each. First there were the Veterans of the army, only called into action upon urgent need. Their manner of fighting was ruthless and ferocious, according to the traveller Skertchly, who visited Dahomey in 1874, "such as cutting an enemy to mincemeat or blowing him into fragments by a single discharge of a musket". Secondly, there were the Elephant Huntresses, most celebrated 'soldiers' of the force, used in peace-time for hunting expeditions. Thirdly, the Archeresses, to which the youngest and prettiest girls of the Corps were drafted and who therefore formed the Parade Corps. They were armed with a peculiar bow the quiver of which contained poisoned cane shafts. In the field they were mostly used as scouts and porters, carrying the wounded into the rear. Fourthly, the Musketeers armed with flint muskets who formed the main body of the army. A special feature were the Razor

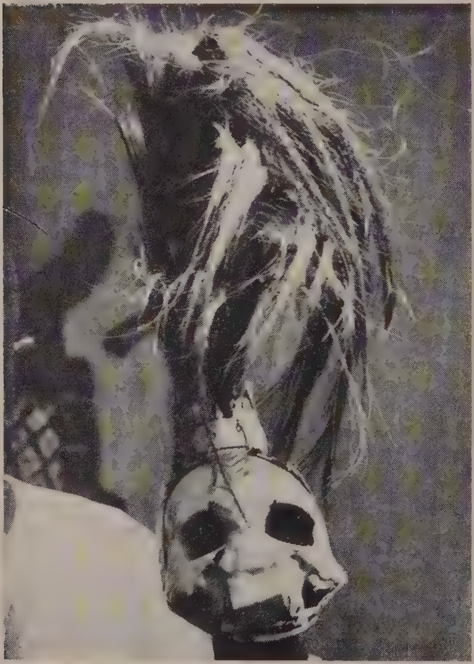
Women, of whom there were only a few to each wing; they had the peculiar duty of killing the king of the enemy, for whose decapitation King Ghezo had designed a razor-shaped weapon with a blade about eighteen inches long shutting into a wooden handle. These special units also had to inspire terror.

In order to keep up the efficiency of these women soldiers, the kings thought it best for them not to marry; so they were condemned to celibacy. To ensure this, they were closely guarded by eunuchs and their barracks placed within the palace enclosure. Amazons, who in spite of all these precautions took lovers, were, with their partners, ruthlessly put to death. The kings were the only exception to this rule and generally kept several of the women as concubines.

To keep the soldiers' thoughts on military matters, manœuvres were frequently held, and villages with walls and stockades were erected to teach them to disregard obstacles, danger, wounds and death itself; shock troops, they were trained on the lines of our commandos of today. They learned to display a ferocious courage which carried all before it, and the Corps had a great reputation for valour.

Europeans who witnessed parades and manœuvres during the last century estimated the strength of the Corps to be somewhere between 2500 and 12,000. Skertchly thought that 4000 was probably the correct number, but he visited Dahomey ten years after the flower of the Corps had perished under the walls of the Nigerian town of Abeokuta, where the Dahomeyans suffered a disastrous defeat in 1864.

The Royal Palace of Abomey, since the abolition of the monarchy partly used as a museum, contains the remnants of treasures and insignias of the Dahomeyan kings, the fetishes of the God of War and royal funeral paraphernalia. Rummaging in a back room which was full of all kinds of odds and ends, I found bits of uniforms which once belonged to members of the Amazon Corps, consisting of tunics, short striped trousers, crossbelts and skull caps with the regimental badges. I held in my hand a cap marked with the blue cross of the crocodile regiment. There was also a number of skull trophies made into regimental standards; human skulls tied with embossed silver bands, surmounted by a horse's tail impaled upon a staff. These were used by 'Our Mothers' in victory dances after the battles.



Top of a staff made of a human skull, horsehair and beaten silver. It was used in a dance celebrating a victorious battle by the Amazon wives of the king of Dahomey. Below are the barracks occupied by the Amazons, who were fully trained as a military force

Black Star

Old and New in Tunisia

by W. M. COUSINS

Sixty years ago Tunis was a semi-independent Moslem state, decayed, exhausted, bankrupt, but the repository of a once-brilliant civilization that had flourished for thirteen hundred years. In 1881 the country entered upon a new era; it became a Protectorate of France. A curious diarchy was then devised; the ancient Moslem law was retained, and a French colonial administration was imposed above it. Thus, the Bey, Sidi Mohammed el Monsef Pasha, remained Possessor of the Realm of Tunis, with royal honours such as are paid to an independent prince; but all Beylical Decrees used to be countersigned by the French Résident Général, who exercised a right of veto. The Bey retained his Wazirate—the Grand Wazir, the Wazir of Justice, the Wazir of the Pen—but the Résident Général controlled Foreign Relations, and officials sent from France took charge of Defence, Public Finance and all recent developments in Agriculture and Science. Provincial administration was entrusted to Caids, Kalifas and Sheikhs, a hierarchy of governors and village headmen; but every Caid was under the charge of a French Contrôleur Civil, who kept watch from his office at Tunis or Bizerta, El Kef, Sousse or Sfax. Justice was also duplicated; cases between Moslems were judged by Koranic Law in front of the Cadi, while cases in which Europeans were involved were tried in a French court of law.

There were also two roads in education. The Koranic schools survived under the shadow of the mosque, where little Moslem boys, seated cross-legged on the floor, learnt to read and write in Arabic and to recite the Koran; from these they could pass on, through purely Moslem institutions of learning, to the Medersa ez-Zitouna at Tunis, a college of University standing which teaches an ancient Arabic lore akin to the curriculum of El Azhar in Cairo. The Moslem boy could, if he chose, attend the École Franco-Arabe, a school that teaches young Tunisians to speak and write in French, using the methods of a junior High School; thence he could pass on, like the French child, to a Lycée, or to a Technical College. The Old and New Learning stood side by side, offering their rival claims to Tunisian youth.

This dual organization was cumbrous and costly, for it demanded the duplication of every public post; but it has had the merit of preserving intact the Tunisian sense of nationality, while leading the people gently through a period of rapid and inevitable transition. Hence the French and Moslem worlds coexist in the same city, one in the *medina* (Arabic for 'city'), the other in the suburban square; they are not unfriendly, but each group maintains strictly its traditional mode of life.

French settlement has been mainly in the north. The north-western corner of Tunisia is fertile, with a good rainfall; the moist, vine-clad valleys are encircled by mountains covered with cork forests which stretch in grey-green sheets of woodland beyond the frontiers of Algeria. The Allied troops, advancing from the west, moved along the winding coastal road at the foot of these mountains. They found Algeria well supplied

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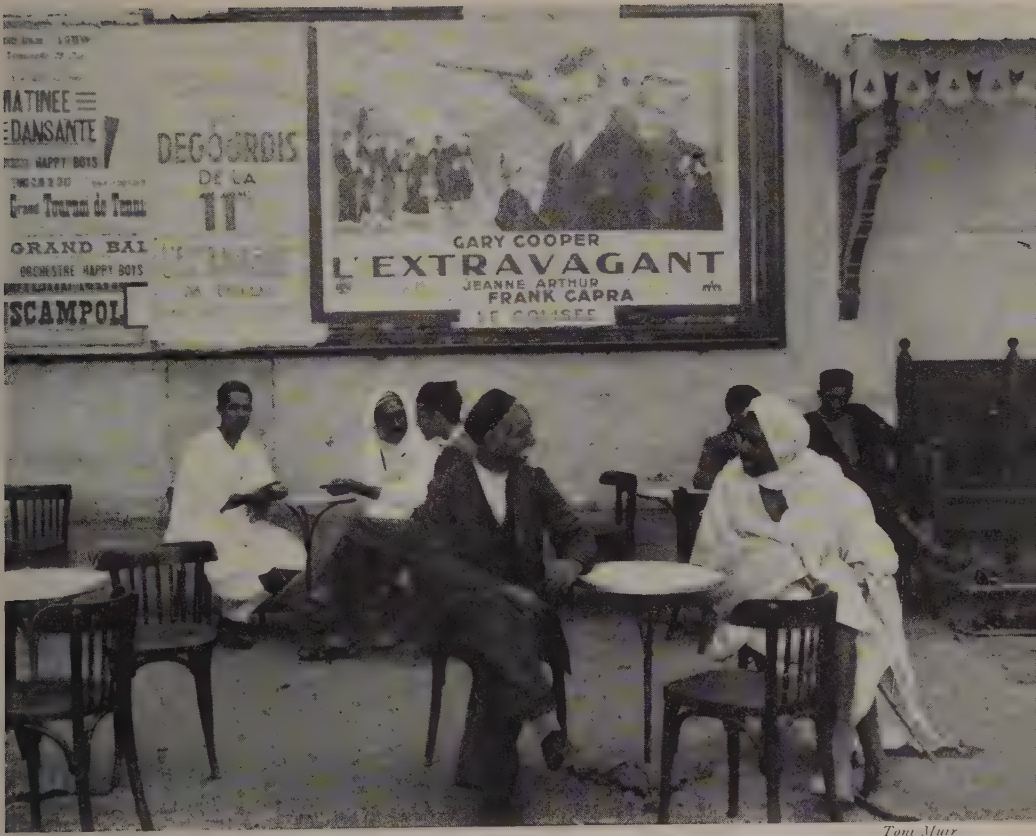
At an Official Reception in Tunis: the Court Notary of the B
wears uniform, but the dignitary from the South appears in
graceful robes worn by Moslems from time immemorial



Tom Muir

Black Star

(Top) *'Mr Deeds' comes to Tunis: Arabs in the* qahouat (*café*) *discuss the latest film from Hollywood.* (Above) *The young apprentice learns the old Tunisian craft of metal-work, while* (right) *the student studies his modern French text-books*

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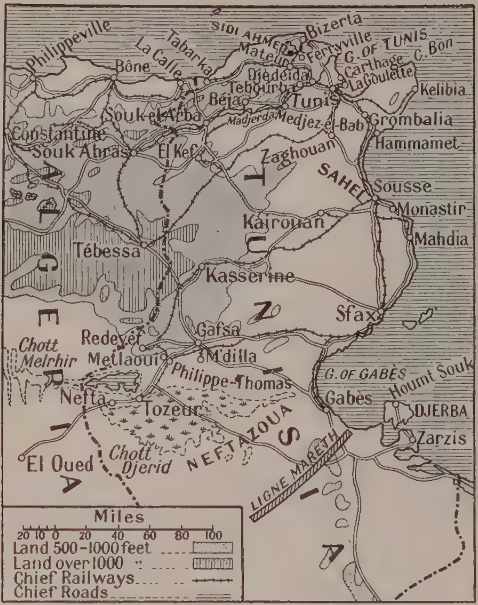
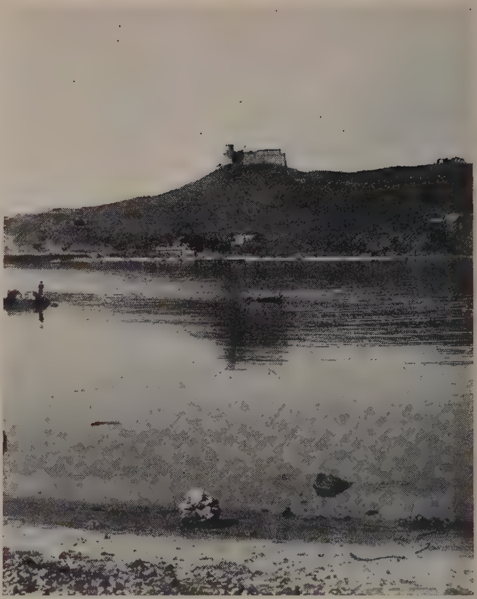
(Opposite) *Summer Palace of the Bey of Tunis.* (Above) Fondouk (*inn for caravans*) *on the island of Djerba. In the courtyard countrymen may leave their pack animals while vending their wares in the market, returning only to sleep on the bare boards of the small cell-like rooms on the upper floor. The market, once the greatest in Southern Tunisia, is now a small country affair, attended by local farmers. Djerba, though a small island, is of great fertility, famous for olives and corn.*



with seaports and on that steep, indented shore numerous bays that were used for landing supplies: Bougie, Philippeville, Bône, La Calle. Beyond the Tunisian frontier is the last of that series of small but beautiful ports, Tabarka.

This sleepy little town, smothered in vines and mulberry trees, wakes up once a year for the Fête de la Langouste, when gourmets gather from far and near to taste the harvest of the sea. The harbour is sheltered by an island crowned with an ancient castle, built in the 16th century by merchants of Genoa who came to fish for coral along this alien shore. Coral fishers use the port to this day; though now their industry is much decayed, for the world has lost interest in the 'precious coral' of the Mediterranean. Formerly the island was joined to the land by a stone causeway; but for the better protection of the castle, now used as a lighthouse, the stone-work has been broken down. A rough jetty, a beach, a broken wall—this comprises the port of Tabarka, the best harbour on the north coast of Tunisia.

The village consists entirely of French buildings; a Catholic church, famous as the "église souterraine de Tabarka", has been constructed in an ancient Roman vault. The landscape is dotted with pleasant country houses, the homes of the French colonists. But on market days Africa is uppermost, when the square is filled with peasants who come to sell their wares under the mulberry trees: Kabyles from Algeria, whose women walk unveiled, and shy Khoumirs from the mountains, the poorest and most backward people in Tunisia. If a man walks in the depth of the cork forest, though he may believe he is alone, he is sure presently to spy a Khoumir, like an elf, peeping at him from behind a tree.



W. M. Cousins

The medieval castle at Tabarka, now used as a lighthouse, was built by the merchants of Genoa to protect their trading-posts

Bizerta today is an important seaport. Situated at the neck of the Mediterranean, where Africa draws nearest to Europe, it commands the narrow seas. Within the curve of a bay stands the well-built modern town, spacious and clean. Behind it lies the Lac de Bizerte, a salt lagoon of forty-five square miles and so deep that our largest battleships could enter as far as the arsenal of Sidi Abdullah. At the close of the last war this lake saw a gathering of 140 warships, and the French used to boast that all the navies of the world could float within its bounds. It is approached by a canal, cut straight through the town, making in all eight miles of deep waterways from the open sea to the recesses of the lake. Originally only thirty-two feet deep, this channel has been enlarged by dredging to a depth of forty feet; the surface width at the most constricted point is 270 yards, with over 200 yards at the bottom.

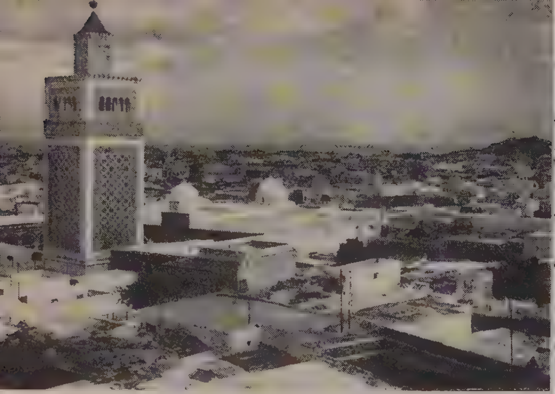
P. G. Luck

A corner of Bizerta's fine harbour. The canal, lined with docks and quays, leads from the outer harbour to the Lake, giving access to the naval base

These measurements compare favourably with the narrower reaches of the Panama Canal. Lined with quays, flanked by buildings, warehouses and greenery, the channel expands into the Bay of Sibra, a large pool of deep water offering an almost unlimited dock space for commercial vessels. The Naval Station, on the southern shore of the lake, one of the best-equipped colonial ports in the world, is furnished with a dry-dock and facilities for refuelling and repair. Stores of munitions are hidden in rock-chambers 60 feet underground. The military aerodrome at Sidi Ahmed and the seaplane base at Karouba are among the most modern in Africa, and are supplemented by a civil airport.

Italian commercial influence is strong in Bizerta; but the Administrative Division, including Ferryville—Bizerta's "dormitory" suburb—is French in language and in blood. Italians form a large part of the European group in Tunis and in Bizerta, in the capital outnumbering French residents, and a large and crowded section of the city in the region of the docks is known as "la Petite Sicile". Italian farmers have settled in large numbers in the Cap Bon Peninsula, a pleasant fertile country of gardens and orchards, and also around Grombalia at the foot of Zaghouan. Here they cultivate the vine, and acres of spruce vineyards surround their neat little whitewashed houses. The Italian farmer is a peasant and his women-folk work beside him in the fields; but the French colonist is a farming squire, an employer of labour, with a much higher standard of living and wealth. For this reason the Tunisian farmer is jealous of the Italian settler, who competes with the native in his own manner of living; but he has little resentment against the French *colon*, who brings capital into a country desperately in need of development. But not all Italian settlers are pro-Axis in sentiment; many are descendants of families that left Sicily three generations ago and have long disapproved of the political methods of Mussolini.

Tunis is perhaps the worst natural harbour in the world. This ancient town, a Punic settlement older than Carthage, was founded on the landward edge of a wide lagoon, so shallow that it cuts off the city from the sea more effectively than five miles of dry ground. Across the lake, El Bahira, French engineers have constructed a canal, eight kilometres long and twenty-two feet deep, leading from the water-front to the open sea. Great banks of earth protect the channel against the



Black Star

Barnaby's

muddy waters of the Bahira, and upon one of these runs a light railway connecting Tunis with La Goulette and with the airport, and also with the military aerodrome at Aouina, upon the north shore of the lake. Until 1939 the Grand Bassin Central at Tunis could accommodate only ships of less than three thousand tons; but just before the war it was deepened, to the triumph of Tunis, to receive vessels up to five and six thousand tons. These natural difficulties compelled the development of the port of La Goulette, on the seaward side of the lagoon, near the ruins of Carthage; this fine harbour has an anchorage of considerable depth, but it affords little protection against the north-east winds which in winter sweep the Gulf of Tunis with tornado strength.

In spite of an almost ludicrous lack of natural advantages, Tunis is a brisk commercial port. The French town has an air of prosperous energy and a widespread suburban area of villas, at Carthage, Ariana and Mutuelleville. A central street, the Avenue Jules Ferry, leads to one of the ancient city gates; outside the gate is a large European town of cinemas and shops and substantial office buildings of reinforced concrete; within the gates lie the souks and dark, unchanging Moslem world.

The valley of the Madjerda basin in which Tunis lies is rich in corn, and its hillsides have been under cultivation for perhaps three thousand years. The Numidians established farms upon the mountains and have left monumental stones inscribed in their curious ancient script. Punic overlords exacted toll from them. The Romans knew the district as Zeugitana and found it "a second Egypt"; and it still produces nearly half a million metric tons a year of barley, wheat and oats. The valley is not now so populous as when the Roman cities, arrogant and rich, were dotted five miles apart over the whole land; indeed the population must now be less than one-tenth of that of Roman days. Yet it is

Toni Muir

(Opposite, top) *Tunis from the Dar-el-Bey showing the Mosque Ez-Zitouna;* (below) *the Sponging-Fleet at Sfax: qaribs, the traditional fishing-craft of Tunisia, shelter in the modern port;* (right) *in the oasis of Gabès gardens of date palms grow.* (Above) *Near Medjez-el-Bab: an up-to-date machine cuts and threshes the wheat on the farm of a French 'Colon'.* (Right) *In the Bus: this Arab lady from Gabès veils her face from the eyes of male passengers.* (Below) *Tunisian peasant farmer*

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fertile still and studded with a few lonely, small, half-modernized Arab towns: El Kef, the City of the Rock, hanging like a rook's nest in a grove of trees; Souk-el-Arba', where the storks build, and Beja, centre of the corn country, a city that boasted in medieval times she could send away a thousand camel-loads of grain daily yet never feel a dearth. Half-way down the valley is Medjez-el-Bab, an ugly little modern town which stands sentinel over an antique bridge thrown across the swirling waters of the Medjerda. It looks like a township on the bleak fields of Manitoba rather than a Tunisian town. Round a depressing central square cluster the public buildings and banks; beyond them, under

spindly trees, stand a couple of red-roofed villas and the military barracks. All around stretch the flat plough-lands of the rich valley bottom. Though small, it is in a humble way a wealthy place, and a great centre of activity for French colonists.

South of Cap Bon lie a string of Tunisian outports—Hammamet, Monastir, Sousse and Sfax. Sousse is a charming little town; sheltered from the north-east winds and from the sirocco, it lies in the most fertile part of the Sahel. Up the side of the hill straggles the quaint little medina, crowned with a *kasbah* now used as a museum; all around is a huddle of French holiday houses and a line of palms adorns the water's edge. This is the halting-place for pilgrims bound for the most famous shrine in Africa, the Holy City of Kairouan. "The holiest city on earth is Mecca," say the Arabs, "and the next is Medina, and the third is Jerusalem, but the fourth is Kairouan"; and seven pilgrimages to Kairouan are worth one to Mecca. Strangers gather from all parts of the Moslem world to say a prayer in the Mosque of Sidi Oqba, the hero who conquered Africa in the name of The Faith.

In Tunisia the modern spirit is stirring, but nothing has shaken the hold of the Moslem Church upon the people, nor have they lost their old, quasi-religious superstitions. No women are yet released from the tyranny of the veil, and married women still keep themselves invisible to men. They can tell strange legends of ghouls and of djinns, and all wear silver charms to avert the Evil Eye. The Fish, the Hand of Fatima—these symbols of protection are still made, and every child must wear them lest he fall ill.

Sfax is the commercial capital of Tunisia, the phosphate port, connected by rail with the rich deposits at Metlaoui; it is also the centre of a large, rather forced, development of the olive-growing industry and of the native sponge-fisheries. The small French quarter, which appears to consist entirely of offices and banks, controls enormous wealth; it is built around a dark, fanatical Arab medina. The narrow-gauge railway, owned by the Compagnie des Phosphats, brings down the mineral ore from the interior.

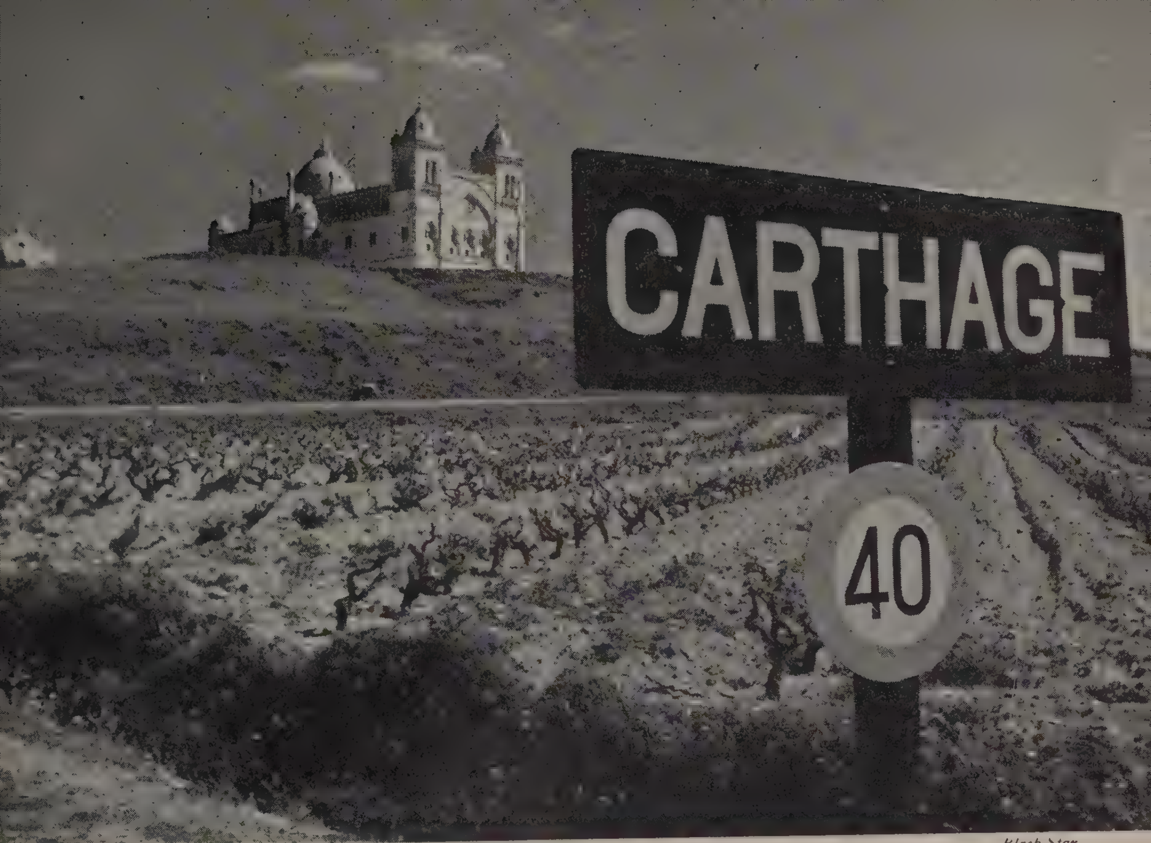
The phosphates are mined, not, as is sometimes stated, at Gafsa, but at Redeyef and M'dilla, and especially at a small mining town called Metlaoui-Philippe-Thomas, a few miles from the Gafsa oasis. The rails run straight into the mine, where the level galleries enter the side of the hill; ore is shovelled from the rock-face into the mechanical tilting-trucks, which roll down to the quays of Sfax and discharge their burden into the ship's hold. The Company, before the war regarded as one of the richest in the world, makes use of every labour-saving device known to science.

A few miles thence the ancient city of Gafsa clings to its lion-coloured hill; it is a noble city, even in decay, adorned by a gigantic *kasbah* and a famous mosque built of Roman columns and of inscribed and carven stones. Metlaoui is a cluster of weather-board houses on a high bleak veldt; Gafsa is a walled city in an oasis of palms. Fortress of the Romans, it is now forgotten and has no exports beyond dates and fruits from its orchards and tissues woven by its women; Metlaoui sends out annually nearly one and a half million tons of phosphate ore, and creates the lion's share of the wealth of Tunisia.

South of Sfax lies an underwater shelf of sand extending beyond the island of Djerba and blanketing part of the Tripolitan coast; thus the southern ports—Gabès, Houmt-Souk, Djorf and Zarzis—are surrounded by shallow water.

The port of Gabès serves the Ligne Mareth, the elaborate defence erected by the French military authorities for the protection of southern Tunisia. The true Gabès is an oasis town which owes its existence to a river of fresh water that wells out of the sand and creates in its path a small pocket of fertility. Sheer as a wall, a grove of palm trees rises from the desert; outside the oasis nothing grows except rhetm, the desert plant; within the oasis-bounds the gardens have become a legend.

Southern Tunisia has been little affected by contact with the modern world. Too dry for cultivation, its arid hills offered no scope for the French colonist; the nomad Arabs pass by as of old with their camels, and the Berbers cluster round the well. The cave-dwellers of Matmata still live in habitations dug out of the earth, a habit that has persisted in Africa since Palaeolithic times. If they have caught anything from the modern age, it is only that fresh well dug for them by French engineers. In Tozeur and Nefta and the Neftazoua the villagers live as in days gone by on the proceeds of their gardens of dates. The communities of the south were old in the days of Herodotus; they are older than Carthage, older than any written record of man. They have no record of their history; now they have a sight of the strength of Europe, but they will forget it again, as they have forgotten the passing of Rome. They are of the desert, unchanging, eternal.



Black Star

arthage is today, and has been since he Roman town was destroyed by the rabs in 698 A.D., a name. There is ot even a village of Carthage, merely the reat modern Cathedral (seen in the top icture on this page), the monastery and useum of the 'White Fathers', a issionary Order founded by Cardinal avigerie; a few villas; some vineyards hich produce a heady wine; the chapel 1842) commemorative of St Louis, King f France, who died there, and a few uins. The ruins are nearly all Roman, ince Carthage — the 'new City' was ounded by Phoenician colonists about 22 B.C., the 'old City' was Utica, ome distance north of Carthage—was tterly destroyed by the Romans in 146 .C. after the last Punic War. The ower picture shows a Roman Viaduct

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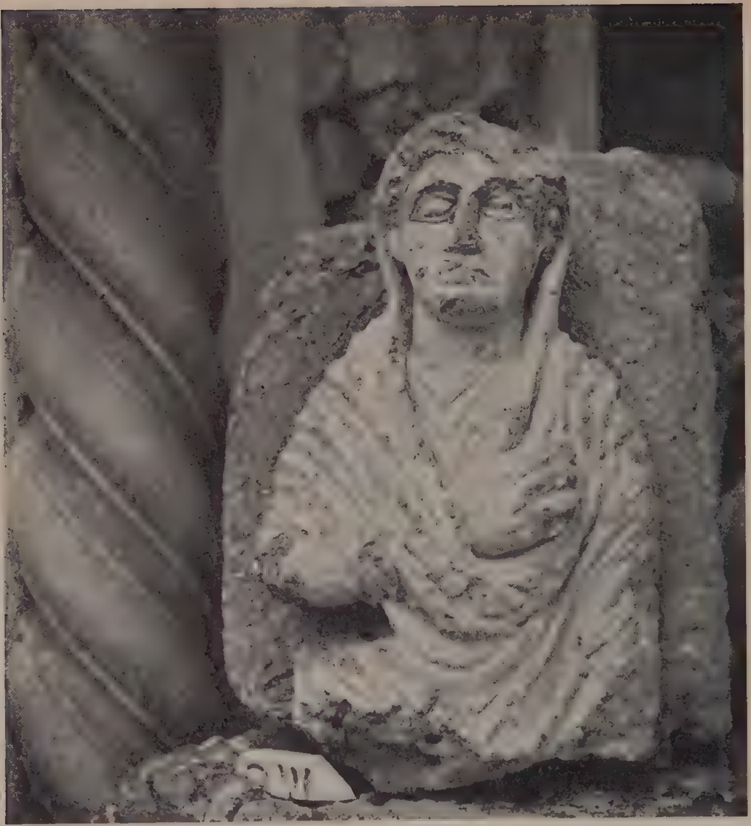
Opposite is a view of a Roman basilica as you look south across the Bay of Tunis towards the two-horned mountain known as the Bou-Karnain, a High Place of Baal in Carthaginian times. It was consecrated to Saturn by the Romans. To the right of the picture stretches the tongue of land which divides the stagnant waters of the Bahira or lagoon of Tunis from the Bay. Here in ancient times was the harbour of the powerful city-state of Carthage. How deserted is Carthage today one can see from the grazing sheep and their diminutive shepherd sitting on a column stump with Roman mosaics at his feet



Toni Muir

In the Museum of Cardinal Lavigerie's monastery are gathered the remains of Punic art found near Carthage. For so wealthy and so ancient a state the collection is not imposing, but it is curiously illustrative of the permanence of tradition. On the tombstones you see symbols still used by modern Tunisians. The Romans smashed and destroyed all that reminded them of their hated rival, yet Roman Carthage was itself for over 800 years a flourishing city. The Roman remains range from the crude provincialism of the monumental masons, seen on the left, to the massive, imposing, somewhat uninspired but very imperial 'Victory' shown opposite

Black Star

In the distance is the ancient Byrsa or citadel hill of Carthage, seen from the northeast

Progress Beyond the Urals

by MAURICE EDELMAN

In 1931 a long train of passenger coaches and freight cars drew up at a siding on the western slopes of the Urals. Over a discarded railway carriage, serving as a waiting-room and ticket office, was a placard with the name *Magnitostroi*. The American engineers who stepped out of the train, among them a few negroes with smart pigskin cases, looked round for porters, but in vain. They could see only wooden huts, a field of tents and large barracks in construction. With their fellow passengers, Russian, Ukrainian and Georgian engineers, they started unloading supplies from the train, which carried, in addition to precision tools, medical equipment for the Magnitostroi hospital and tinned foods.

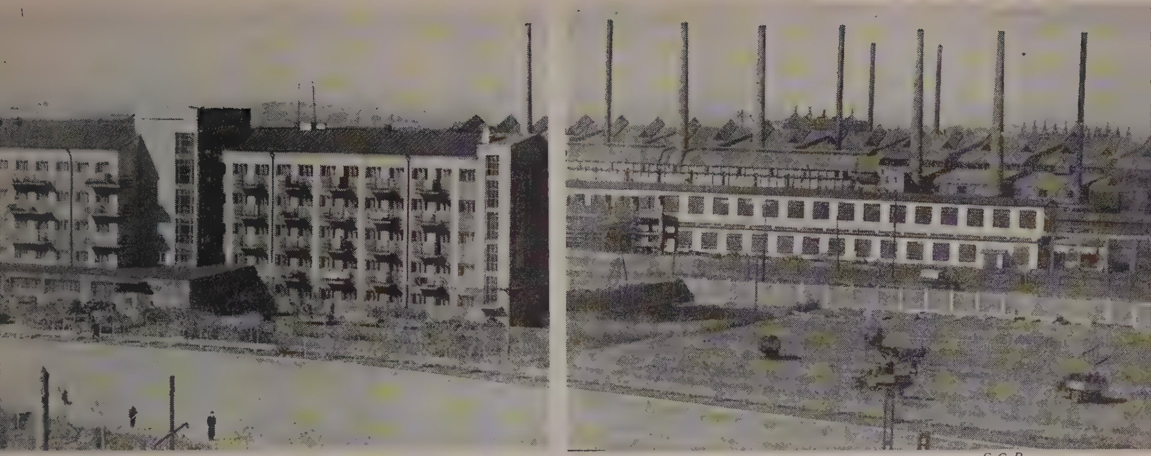
The shanty town which these engineers were looking at with doubt and curiosity was, within the space of ten years, to become Magnitogorsk, a city of 400,000 people. Its furnaces, still using charcoal to smelt its iron-ore as in the 18th century when Britain was Russia's largest customer for pig-iron, were to develop through Western science and Soviet planning into one of the greatest metallurgical combines in the world.

From the Urals to the Pacific, new towns sprang up in these ten years with the suddenness which marked the development of the American Middle West. Komsomolsk and Soviet Harbour in the Far East were planned creations of the second and third Five-year Plans. Chelyabinsk, Sverdlovsk, Gorki—they all grew at the same furious pace as did Russia's industrialization. Backward towns in undeveloped Siberia became in a few years roaring factory-cities. Omsk, Tomsk, Irkutsk, old wooden towns, became cities of steel and concrete.

But to complete this transformation it was not enough to build industries in the Urals; it was necessary to supply them with workers. The population of Bashkiria and Kazakhstan, totalling over ten millions, could only be attracted from their nomadic lives to industrial settlement when they understood their place in the Soviet political system and could emerge from the separateness which their own traditions and Tsarist policy had imposed on them.

In the early years of the second Five-year Plan, the technicians had been chiefly Americans with a sprinkling of Russians. With the third Five-year Plan, the cadres of trained Russians came into their own. They led the emigration of workers from Western Russia to the east and trained native workers to become technicians, working side by side with them in friendliness and comradeship.

The inferior position of women among the Islamic peoples of Turkestan and Uzbekistan was one of the difficulties which the Soviet



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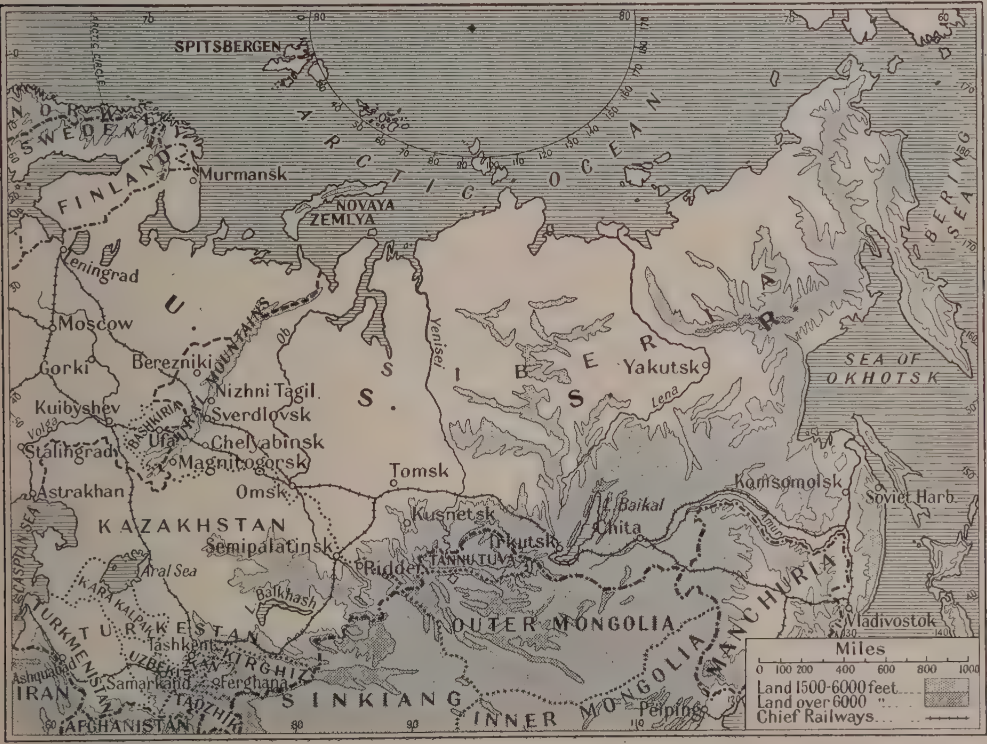
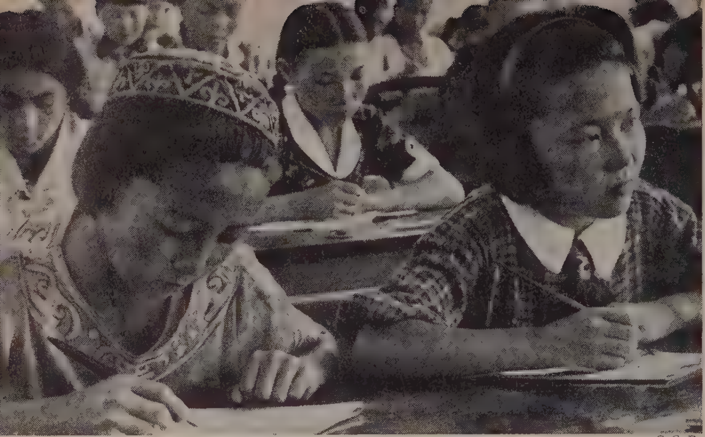
A panoramic view of the iron and steel works at Magnitogorsk, a city of 400,000 inhabitants, standing on a site that twelve years ago was undeveloped steppe





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Pictorial Press

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In Soviet Asia industrial development coincided with the campaign against illiteracy: above are (left) *young Kirghiz and* (right) *Uzbeks in school. On the left scholars and students are seen in one of the museums organized to supply a regional background for historical and economic studies.* (Opposite) *Excavating a section of the great Stalin canal at Ferghana*

Government had to overcome in bringing the lives of her Asiatic citizens into line with Soviet economy, for in the U.S.S.R. women have equal rights with men and their labour is an important factor in planned production. Until as late as 1935, I saw women from the Soviet East wearing the *paranja*, a heavy, unwashed horse-hair veil concealing the face and forming a nesting-ground for flies and a breeding-place for disease. The congenitally diseased child and the blind grandfather were almost as much a part of the nomad's tent as his hearth. Asiatic women ate only after their husbands had finished, spoke only at his will and were summoned by him in the same way as his dogs. Child mortality in Soviet Asia was among the highest recorded in the world.

The campaign of *Likbes*, liquidation of illiteracy, coincided with the industrial campaign. Often at the Moscow stations I saw engineers setting out as pioneers for some town of the Urals or Central Asia. Deputations from factories or clubs they had been associated with would come to see them off and garland them with flowers. For it was indeed a heroic enterprise to leave the comfortable institutions of the West for the barren slopes and plains of the East. But, as in the development of the British Empire missionary and trader worked side by side, so in the Soviet East the school teacher's work was the complement of the engineer's. They left Moscow in the same trains and on arrival in Bashkiria or Turkestan or Kazakhstan, the teachers left the railway tracks and towns and travelled with their Red Yurtas among the villagers, teaching them to read and write, giving them knowledge of Soviet institutions and resisting the influence of the mullahs. These teachers often suffered the fate of evangelists. I remember the sensation in Russia in 1936 when the body of a Soviet woman teacher, hacked to pieces, was sent in a sack to the

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Communist Party headquarters with the message: "So much for the liquidation of illiteracy!" Despite setbacks of this kind, the benevolent intentions of the Soviet Government towards Uralian and Asiatic peoples were manifest by 1936, the year of the Stalin Constitution, when the influence of mullah and bey had been almost entirely replaced by that of Soviet government.

The Stalin Constitution established the Council of Nationalities, an assembly elected from the constituent republics of the Union and parallel with the Council of Soviets, having the right to initiate and veto legislation. The Constitution confirmed the racial and national equality of the ninety million non-Russian peoples with the Russians and, as a result, all the people felt they had a stake in the Soviet fatherland—the *Rodina*. This feeling has enabled them to resist Goebbels's attempts to revive the racial antagonisms and strife which prevailed when they lived in what Lenin called a "prison-house of nations".

From 1936 onwards the training of native workers in Bashkiria, Kazakhstan and Central Asia was speeded up. Within two years, Molotov announced the "duplication of Western industry in the East", a process which had, in fact, been going on since the beginning of the decade. In Tashkent, Ferghana and Samarkand, narrow lanes of ill-smelling slums were dynamited and replaced by boulevards of modern factories and workers' flats. Today in almost every town of Soviet Asia, a Soviet suburb, clean and utilitarian in architecture, rises at the side of the native hovels. European dress jostles native dress. In Ashquabad, the capital of Turkmenistan, the women still wear the national dress of home-woven red silk, their breast adorned with metal pendants, coins and chains. Beneath it they wear trousers reaching to the ankles, and on their heads, elaborate tiaras, often twenty inches high, with veils hanging down the back. The men wear dark upper garments called *khalats*, tall black or white sheepskin hats and high boots with high heels. But mingling with them you will see large-eyed, delicate-featured women of the same race, fresh from the *Parich macherka*, their hair permanently waved, their nails manicured, wearing the bright cotton frocks and tennis shoes of the fashionable factory girl, while the men wear caps and collars and ties or *rubashkas* under European jackets, the Russian civilian development of western fashions.

The creation of the Magnitogorsk-Kusnetsk axis under the third Five-year Plan by which the iron-ore of Magnitogorsk and the coal of Kusnetsk, over a thousand miles to the east, were delivered to each other in a shuttle service, feeding the metallurgical combines at each end of the axis, stimulated the growth of new towns and the development of older ones. In the Soviet Union the town has the same attraction for the peasant as elsewhere in the world. Special technical schools were set up in Bashkiria, Kazakhstan and the Central Asiatic Republics to train Tartars and Kazakhs for industry. They learnt rapidly. The Ford internal combustion engine was the basis of their mechanical training, and when they began to man the tractor factories of Gorki, Sverdlovsk, Chelyabinsk and Magnitogorsk it was clear that in war, as in peace, their skill would be of great value to the Soviet Union.

It would, however, be wrong to think that the Soviet Government encouraged industrial development in the east for strategic purposes alone. The even development of Soviet economy, in the interest of all its peoples, was a cardinal point in the revolutionary programme of 1917. The cultural development of the peoples was a parallel development.

I visited the 'University of the Toiling Peoples of the East', in Moscow, in order to examine its syllabus. Principally, it trains teachers in Soviet political economy; secondarily, it encourages its Asiatic pupils to examine the cultural heritage of their own people, to record it and to foster it in their autonomous republics. Soviet rule in the east has not produced a barren uniformity. Soviet institutions such as the Parks of Culture and Rest, which you will find in the larger cities, have not superseded or smothered indigenous culture. On the contrary, story-tellers of the market-place now tell their stories and read their poems in the parks, where you can buy in print the story once known only to the story-teller himself. The children sing old half-forgotten songs which native teachers have revived and noted. The sound of native instruments fills the courtyards in the summer evenings. Their music often recalls days of servitude, but new songs

A family of Kirghiz, originally nomads of Mongol descent, who are among "the mighty ferment of people drawn into the purposeful activity of the Soviet Union"

S.C.R.

Pictorial Press

An impressive example of the development of natural resources in Soviet Asia is the great electro-chemical plant in Uzbekistan. This canal takes water to it from the Chirchick River. One of the plant's products is a nitrogen fertilizer used in the Central Asian cotton fields

and gayer tunes are devoted to the daily work and new life of the peoples. Schools, lending libraries, reading-huts and universities where the language and literature of the national republics are fostered and taught, steadily increased before the war. Illiteracy among the young has become almost non-existent.

Today when I think of the still inviolate lands of the Soviet east, I think not merely of the tanks rolling off the mass-production lines of Chelyabinsk, or of the open hearth-furnaces of Magnitogorsk blackening the sky by day and reddening it by night, or of the carriage and wagon works—one of the greatest in the world—at Nizhni Tagil, or of the oil-cracking plant at Ufa in Bashkiria, Russia's 'Second Baku', or of the lead mines at Ridder, the chemical works of Berezniki and the coal-fields of the Kusnetsk Basin: I think also of the mighty ferment of peoples drawn from a dozen different origins and a hundred different tribes, emerging within ten years from hard, isolated lives into a new existence where contact with a numerically dominant people, the Russians, has not overwhelmed them but drawn them into the purposeful activity of the Soviet Union.

The first time I visited the Soviet Union I was followed through the streets by three *bezprisorniki*, waifs, who whined, as though under a conductor's baton, "*Dayte mnye kopeychki*" ("Give me a few coppers"). I gave the smallest of them a few kopeks. Immediately one of the other boys said resentfully, "Don't give him any. He's a gypsy. We're Russians."

By 1936 such lingering racial prejudices had died, and Russian pioneers had shown the more backward peoples of the East that vast resources of wealth lay in their lands and labour. Accelerated by war, their joint efforts, added to the science, technical skill and man-power now being applied in the Urals and Soviet Asia, will make these regions a focal point of the world's economy when peace returns.

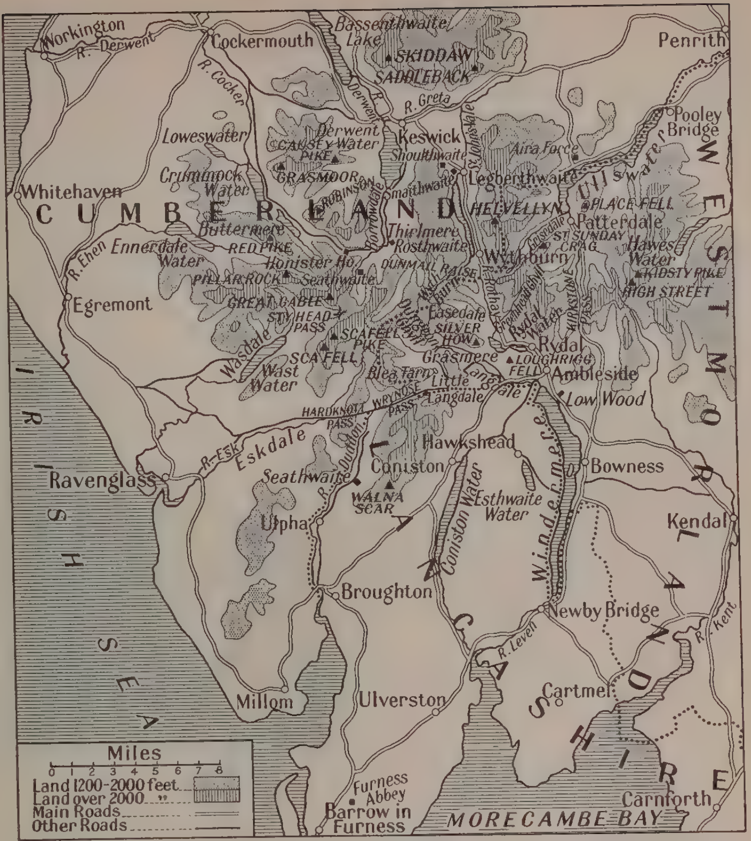
Wordsworth's Lakeland

by E. DE SELINCOURT, D.Litt., LL.D., F.B.A.

It is not easy exactly to define the boundaries of the English Lake District, but it may roughly be regarded as comprised within a square of twenty-five miles, drawn on the map with the town of Penrith at its north-eastern corner. No poet was ever more intimately associated with his environment than was Wordsworth with this tract of country. Here was his home for all but twelve of his eighty years of life, and in only seven of those twelve did he fail to spend some portion of his time in it. In the impressionable years of boyhood, while he never travelled beyond its limits, he became familiar with its length and breadth.

Wordsworth was born on April 7, 1770, at Cockermouth, a little market town in its north-western corner, situated on the confluence of the mountain streams of Cocker and Derwent; here he had Skiddaw full in view, and was within easy reach of Loweswater and Crummock and their adjoining mountains. His grandparents lived at Penrith; and in frequent journeys thither he would pass along Bassenthwaite to Derwentwater and Keswick, and on between Saddleback and the range of Helvellyn.

His school-days were spent at Hawkshead on Esthwaite, some twenty-five miles south-east of Cockermouth and south-west of Penrith; and the free open-air life that he enjoyed there familiarized him with most of the central and southern parts of the district. There was no official boarding-house to cramp his movements out of class hours, no organized games to encroach upon his leisure; the boys were lodged with dames in the village, who left them largely to their own devices, and the tale of his school-days tells of ranging the hills at night in search of woodcocks, of scaling the crags to rob the raven's nest, in the winter of skating by starlight, in summer of walks round Esthwaite from five o'clock in the morning, of boating excursions on Windermere and Coniston, of tramps over Walna Scar to fish in the Duddon valley, or expeditions on horseback far to the west, to Furness Abbey and the sands of Morecambe Bay. Upon one lonely ramble from Hawkshead he pierced the gap between Loughrigg Fell and Silver How, and, catching his first glimpse of Grasmere, felt "What happy fortune were it here to live!" little dreaming that the wish was to be realized. His journey home for the holidays would take him through the very heart of the mountains, whether he went by the old Roman road that ran over the Wrynose Pass and Hardknott to the coast, or followed the route by Dunmail Raise and Thirlmere to Keswick; and when, after his father's death in 1783, his holidays were spent with his grandparents, he would have to cross the Kirkstone Pass to Patterdale, and skirt the shores of Ullswater.



When, at the age of seventeen, he left school for Cambridge, he knew his native Lakeland in all its infinite variety: his later years were to strengthen and deepen a passion thus early acquired. Of this there is evidence not only throughout his poetry, but also in his prose *Description of the Scenery of the Lakes in the North of England*. In its first form this book appeared in 1810, as the introduction to a folio of *Select Views*, indifferently drawn by a clerical acquaintance; it was later enlarged and published separately, and by 1835 had reached its fifth edition. As a guide-book, in the technical sense of the term, it has long been superseded: as a sensitive and eloquent description of the distinctive features of the country it remains without a rival.

The outlines and general formation of the country could not better be indicated than by Wordsworth's comparison of it to a wheel of which the hub is composed of the central group of mountains, and the spokes of the separate valleys which radiate from it. Imagine yourself, he says, resting upon a cloud somewhere between Great Gable and Scafell Pike. To the south-east lies the valley of Langdale, leading to Windermere and so on to Morecambe Bay; due south is the vale of Coniston, running up from the sea, "not, like the other valleys, to the nave of our wheel, but rather like a broken spoke sticking in the rim". The third spoke, still more to the west, is composed of the valley of the Duddon, "in which there is no lake but a copious stream winding among fields, rocks, and mountains, and terminating its course in the sands of Duddon". Fourth comes Eskdale, "similar in general character to the last, yet beautifully discriminated from it by peculiar features", and entering the sea just below Ravenglass. The fifth spoke is Wastdale, "with the long, narrow, stern and desolate lake of Wastwater, and, beyond this, a dusky tract of level ground conducts the eye to the Irish Sea". The sixth is Ennerdale, "with its lake of bold and somewhat savage shores", flowing into the Enna and so past Egremont to the Irish Sea. The seventh is the vale of Buttermere and Crummock; and lastly comes Borrowdale, of which the vale of Keswick is a continuation, almost due north. We have now traversed slightly more than half our circle; to complete it we must shift our position some five miles east, to the ridge of Helvellyn. From here we "look down on Wythburn and St John's Vale, which are a

(Above) *Grasmere from the South showing the village, near which, at Dove Cottage, Wordsworth lived from 1799 to 1813, and the road beyond over Dunmail Raise. The illustration is taken from an 18th-century guide book. It was of Grasmere that Dorothy Wordsworth said in her* Journal*: "it calls home the heart to quietness".* (Below) *An old engraving of Rydal Water with the bridge over the Rothay, and Nab Scar rising on the right.* (Opposite) *The Kirkstone Pass with Brotherswater and Place Fell beyond*

Rischgitz Studios

Val Doone

branch of the vale of Keswick; upon Ullswater, stretching due east;—and not far beyond to the south-east (though from this point not visible) lie the vale and lake of Haweswater; and lastly, the vale of Grasmere, Rydal and Ambleside brings us back to Windermere, thus completing, though on the eastern side in a somewhat irregular manner, the representative figure of the wheel".

To this peculiar formation of the country, in which the valleys diverge from a common centre, is due, as Wordsworth notes, its varied and distinctive beauty; for in each valley the effects of light and shade upon the landscape differ according to its position in relation with the sun. Thus, on Windermere the more gentle and lovely scenes are to the south, the grander towards the north, while in the vale of Keswick it is the reverse. It follows, too, from the proximity of the adjacent valleys to one another, at least in their upper regions, that the country offers an unequalled paradise to the walker, who, in one day's not too strenuous ramble, can cross the dividing ridges and be rewarded with a totally different prospect. Here, indeed, more than in any other mountainous district in our islands, is "infinite riches in a little room".

This wealth and variety of beauty was the direct inspiration of much of Wordsworth's poetry, and still more often formed its essential background. To the action of some of his narratives he gave a specified local setting. Thus Michael's unfinished sheepfold is "near the tumultuous brook of Greenhead Ghyll", the tragedy of *The Brothers* is enacted on the Pillar Rock at Ennerdale; that of *Fidelity* by the silent tarn beneath the lofty precipices of Helvellyn; *The Idle Shepherd Boys* cross the arch of rock that overhangs the pool of Dungeon Ghyll; *The Waggoner* drives his sturdy team up the steep ascent of White Moss, past the famous 'Swan' at Grasmere, over Dunmail Raise to Wythburn and Keswick. And certain of his more personal poems are associated with definite scenes: in an *Ode to the Kirkstone Pass* he enshrined "thoughts and feelings of many walks in all weathers by day and night over the pass"; he wrote a sonnet to Wansfell, whose "visionary majesties of light" bounded the view from his home at Rydal Mount; in a sonnet sequence he traced the windings of the river Duddon from source to mouth; he celebrated the "four fraternal yews of Borrowdale", and the ash pendent over Aira Force, that

> . . . in seeming silence makes
> A soft eye-music of slow-waving boughs:

But more generally he preferred to leave unnamed the scene that had inspired him, and

Ennerdale from Brandreth, with the Pillar,—scene of Wordsworth's tragedy. The Brothers—*on the left*

Val Doone

Derwentwater with Skiddaw in the background; in the foreground is one of the stone bridges so common in the district: in their long rambles the poet and his sister must have passed over many such

(Opposite) *Grange on the Derwent in Borrowdale. The group of farm buildings is very characteristic of the region*

British Council

our knowledge of it, when we have any, is drawn from a note written to satisfy a friend's curiosity, or from a jotting in his sister's *Journals*. Moreover, he did not wish to tie himself down to geographical exactitude. Thus, as a note informs us, the narrative framework of *The Excursion* describes a walk up the valley of Great Langdale, and over the ridge by Blea Tarn to Little Langdale; the general features of the changing landscape, at times even identifiable spots in it, are vividly portrayed; and then, "as by the waving of a magic wand . . . the comparatively confined valley of Langdale, its tarn, and the rude chapel which once adorned the valley" become "the stately and comparatively spacious vale of Grasmere and its ancient parish Church". In the evening the party row across the lake and ascend Loughrigg, but the view upon which they look down blends features of both Grasmere and Rydal. And throughout the whole long poem local place-names only occur three times. It was Wordsworth's aim to convey the general atmosphere and spirit of the country rather than to present identifiable scenes, for he agreed with Burke that the business of poetry is "to affect by sympathy and not by imitation, and to display the effect of things on the mind and the imagination rather than to give a detailed picture of

them", in which, after all, the poet cannot compete with the painter or the photographer.

But though artistic appreciation of a poem is not dependent on acquaintance with the scene that suggested it, the scene itself gains an added charm through its association with a favourite and familiar poem. It is pleasant to visit the fields beside Ullswater where the poet and his sister saw the daffodils dancing in the breeze, to wander in the wood above the Wishing Gate at Grasmere which he named after his brother John, to linger by the "unpretending little rill" that descends near Lowwood into Windermere, which enshrined for him "the immortal spirit of one happy day". And as Wordsworth's study was out of doors, those haunts which we know him to have frequented, "booing his verses", as his rustic neighbours reported of him, will always make a special appeal to the lover of his poetry,—Easedale, where so much of *The Prelude* was composed, White Moss Common and the upper path from Rydal to Grasmere, the former in early years and the latter in later years his almost daily resort, the road to Keswick, over which he so often tramped with his sister in quest of Coleridge, the passes of Grisedale and Kirkstone traversed again and again on visits to friends at Ullswater. Yet, after all, Wordsworth is the inspired interpreter of Lakeland as a whole, and to see any part of it with his eyes is a revelation.

But how far does Wordsworth's Lakeland survive in the Lakeland of today?

The high fells and the lonely recesses within them remain for the most part as they were, but the development of road and building has inevitably transformed the general aspect of the lower regions. Wordsworth, indeed, lived to see more than the beginning of the change. In his boyhood few of the adjacent valleys were connected by roads: bulky goods were conveyed from one vale to another on packhorses. Each valley, however, was intersected by footpaths and cart tracks which led from farm to farm, following such devious routes as the divisions of property and the contour of the land dictated; their surface was rough and unmetalled, and the many streams that crossed them were spanned by narrow footbridges, often highly picturesque in design,—wheeled traffic had to cross by ford. As time went on these tracks were widened into country lanes, but their course was left unaltered, so that no stretches of straight road disturbed their secluded privacy. Simultaneously, the construction of turnpike roads, inaugurated by the Acts of 1763 and 1764, steadily progressed, connecting the more important towns and villages, and facilitating through traffic. These, too, as a rule, followed the old tracks, and did no violence to the landscape. Thus it was not till 1824 that Wordsworth had to lament the construction of a road along the edge of Grasmere, which destroyed its exquisitely indented eastern coastline.

Fortunately he did not live to see the radical transformation of the road from Grasmere to Keswick. Older inhabitants of today can still remember it as it was before Thirlmere became the Manchester Waterworks. Zigzagging down from the top of Dunmail Raise to the little hamlet of Wythburn, it followed up and down the windings of the eastern shore of Thirlmere, then a slender river-like lake nowhere more than a quarter of a mile across, and near its centre so narrow that it was spanned by a rough, three-arched bridge; above the road towered the spurs of Helvellyn, desolate and treeless; while on the opposite bank, where was a track only suited to the pedestrian or horseman, rose in fine contrast the steep and richly wooded fells of Borrowdale. And after passing Thirlmere the road skirted Shoulthwaite Moss, home of wild birds and rare bog plants, and wound on its way by Legberthwaite and the charming bridge of Smallthwaite to Keswick. Nowadays the level of Thirlmere has been raised so that all its natural contours are lost and the promontories submerged that almost joined at the centre, while, in a season of drought and long after, an ugly bank of mud and stones, of anything from six to twelve feet, replaces its natural bank, and proclaims it a reservoir. A well-engineered road now runs on both sides, well above the level of the water, which for the most part is hidden from view by thick unsightly plantations of larch and fir; Shoulthwaite Moss has been drained out of existence, and everywhere road and bridges have been straightened and widened;—what was once the most lovely coach road in England is now a broad track on which the motorist can do his forty to fifty miles an hour without more than ordinary risk.

This is an extreme example of a process which endangers the whole district. Of recent years Haweswater, too, has become a waterworks, with the consequent raising of its level, the submerging of the church and inn of Mardale, and the loss of several characteristic farmsteads; while everywhere the roads are losing their quiet beauty and seclusion in order that they may be more quickly traversed. Such changes, justifiable enough in the main thoroughfares, are often perpetrated where they are wholly unnecessary and against the wishes of the majority, even of motorists. A broad motor road now climbs from the end of Borrowdale up to Honister, and one of the most remotely peaceful passes is ruined for the walker by the roar and screech of engines; a similar disaster has long threatened the lonely Styhead Pass, which crosses from Borrowdale to Wasdale. Unless a halt is called, the change which has come over the more accessible valleys will creep into the innermost recesses of the hills.

Coincident with road development came the growth of buildings to meet the demands of the steady influx of a new type of inhabitant. In Wordsworth's youth the Lake country was wholly pastoral; save for a few large properties the vales were parcelled out into small-holdings owned by independent 'statesmen', as they were called, who lived upon the produce of their land, and found profitable employment for their families in spinning the wool from their sheep, which was duly collected, and sent on pack-horses to the neighbouring towns. But the introduction of machinery, which led to the concentration of the spinning industry in large centres of manufacture, deprived them of this source of income; many of the humbler statesmen now found it impossible to earn a livelihood, and their land came into the market, to be bought up by new settlers who were attracted to the country by the amenities it offered for holiday resort or permanent retirement. The poet Gray, passing through Grasmere in 1762, wrote that "no flaring gentleman's house or garden wall breaks in upon the repose of this little unsuspected paradise; but all is peace, rusticity, and happy poverty in its simplest and most becoming attire"; and Wordsworth bears witness that in the early years of the 19th century this was equally true of Grasmere's sister vales. But it was not to last. As early as 1805 Wordsworth recorded how a Liverpool lawyer had erected at the head of the Lake "a temple of abomination, which will stare you in the face from every part of the vale, and entirely destroy its character of simplicity and seclusion". There is some irony in the fact that the poet was himself its first tenant. And Grasmere suffered less than many of the other villages. Throughout the countryside, and especially on the high-roads and near the lakes, comely old farm buildings were superseded by residences erected for the newly arrived gentry, often pretentious in style, or disfigured by injudicious planting and general lay-out. Thus Landor, visiting the lakes in 1820, gave up Windermere as already past praying for, and groaned over recent violations of Derwentwater. And the little towns, enlarged and largely rebuilt to cater for the new resident population and the ever-increasing flow of tourists, gradually lost their old-world charm. Early 19th-century prints of Ambleside depict a highly picturesque little township, in full harmony with the countryside which it served; today it is a blot on its environment; of the better known Lakeland towns Hawkshead alone retains something of the character it bore a century ago.

But though much of the beauty that inspired the poetry of Wordsworth is thus irrecoverably lost, much still remains; and as life on this island becomes ever more mechanized, more crowded and more noisy, the call for its protection becomes ever more insistent. This cannot be left to chance; only by scheduling large portions, at least, of the area as a national park, and by a wise and really effective control both over building and over the utilization of land, can it be saved from the rash assault of thoughtless and selfish exploitation. Our countryside is among the most precious heirlooms in our national heritage, and of our many projects for a better and happier future, there can, surely, be few more urgent than its preservation.

Eskdale

Sea Power and National Fortunes

V. From the Peace of Versailles to the Present Day

by ADMIRAL SIR HERBERT RICHMOND, K.C.B.

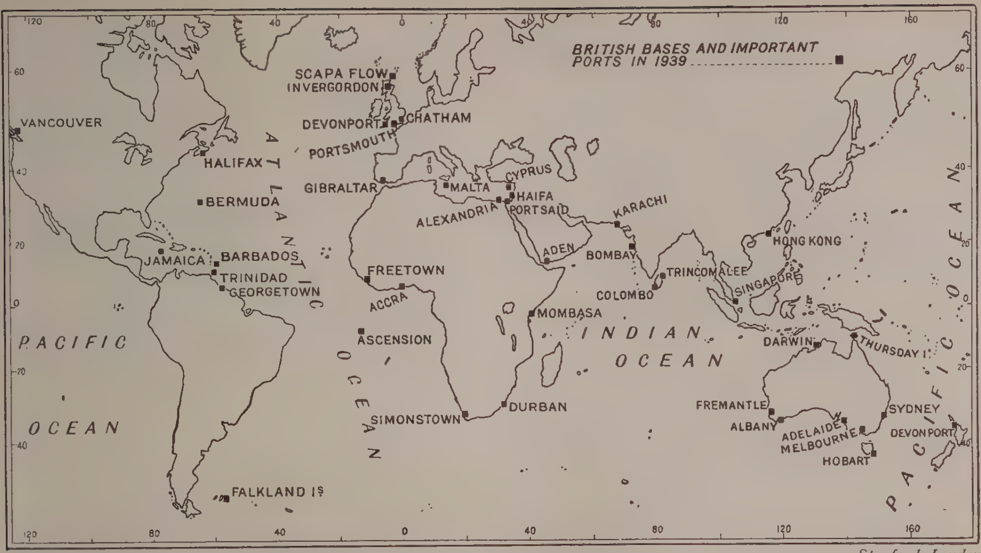
In this final article of our series—begun with J. A. Williamson's contribution on Some Historical Factors *(July 1942) and* The 16th and 17th Centuries *(September 1942), continued by Edward Powley, on the period* From 1688 to 1816 *(November 1942), and Admiral Sir Herbert Richmond, who surveyed the age of British world naval ascendancy* From the Napoleonic Wars to 1918 *(December 1942)—the meaning for Britain of the changes both in technical instruments and world-power which have taken place during the last quarter of a century is analysed by Sir Herbert Richmond, who gives his reasons for thinking that command of the seas, in its most modern interpretation, must still be the basis of British policy*

In the wave of a widespread belief that war had been banished from the world after the defeat of the German aggression of 1914–18, and that the moral influence of the League of Nations would suffice to restrain a future would-be aggressor, Britain's need of sea power, and the part which sea power had played in the four-year struggle, as well as in the past, were forgotten. Sea power came to be measured in terms of battleships and their size. Its other constituents were ignored.

Sea power is not the possession of a number of large ships. Its true meaning is not concrete. Sea power is, as has been said earlier in these pages, that capacity which enables its possessor to control movements across seas that separate combatant nations from the territories they, or one of them, desire to conquer, or from the sources of supplies not obtainable within their own or their territorial neighbours' boundaries.

The power to exercise this control depends upon the possession of fighting craft of every type able to take part in operations which lead to the establishment of control: in the words of President Roosevelt, "Ships that sail on the surface of the ocean, ships that move under the surface, and ships that move through the air." Control results from the defeat of those fighting forces of the enemy which dispute command of the seas, and consists in the regulation of transport, of troops or trade, across the intervening waters. The fighting forces on, under and above the surface of the water cannot operate without bases, and therefore bases are an essential element in sea power. Finally, control is only partially successful if confined to preventing the enemy from crossing the sea, though that is both offensive and defensive in character. It must also enable the sea to be used as a road for traffic, and traffic can only be conducted if there are vehicles in which to conduct it: at present those vehicles are, in the main, ships—the time will probably come when traffic on a far larger scale will pass by way of the air, but it has not come yet. Ships must therefore exist, and shipbuilding is thus a third essential element in sea power.

Though lip-service was paid in plenty to the Royal and Merchant navies for their part in the war of 1914–18, after the peace the sea power of Britain was deliberately sacrificed. Disarmament was hurriedly undertaken, irrespective of what other nations were doing or of the unrest that still existed in Europe. Britain was assigned the part of leading the way in dissipating sea armaments. Others, it was imagined, would follow that lead. The sacrifices affected each of the three elements of sea power. In the material sphere of fighting ships, the Washington Treaty introduced definitions which had no relation to actualities of either strategy or tactics. It laid down arbitrary dimensions for the different types of ships, equally without relation to the arts of war. Its terms prevented Britain from providing herself with ships capable of meeting, upon terms of equal strength and with adequate numbers, the



Stanford, London

later German heavy armoured cruisers, called 'pocket battleships', in the way she earlier had met similar threats by armoured cruisers built by Russia and France for the purpose of the *guerre-de-course*.

In the later Treaty of London even more egregious errors were made in cruiser and destroyer strength. It had long been an axiom of British naval policy that in this country the number of cruisers is determined by the duties they have to perform and the dispositions those duties entail: not by the number of the enemy's cruisers. For example Lord Exmouth, advising on the cruiser force needed in the Indian seas in 1810, had categorically said that "the calculation . . . must not be founded on the numbers of the enemy. The immense trade [is] so scattered and divided as to require a very large force to furnish it with adequate security." He based his calculation on the convoy and cruising requirements.

In a precisely similar way Admiral Hornby, in 1888, worked out our needs on the basis of the cruising stations and convoy services, not upon the number of our then prospective enemies. His calculations called for 186 vessels.

In 1914 our cruisers numbered over 120, and though sixty armed auxiliary ships were commissioned we had to build more cruisers during the war in order to meet our needs. Even as recently as 1921 the Cabinet, recognizing the same principle, had refused to discuss a proposal to impose a limitation based on the numbers of another Power, stating with the utmost clearness that our needs were absolute and not relative. But all this experience was rejected, all these opinions were dismissed as worthless. The principle was reversed. The cruiser strength was "founded on the numbers" of another Power, and the number was reduced to 50—less than half, even without the armed vessels, of what we had so recently needed to preserve our communications.

A no less false assumption informed the reductions imposed upon the flotilla vessels whose number, it was asserted, was regulated by the number of potential enemy submarines: a delusion that would have been gross even if the whole duty of the destroyer lay in protecting trade against the submarine, but was the more gross in that it totally ignored all the other duties which that naval 'maid of all work' had to perform in the late war.

In the matter of aircraft there was an equal want of foresight. The war had seen the first use of them in sea war, and a very large number had been employed; yet it was not realized in this country that aircraft had become integral units of a navy, as it was in Japan and the United States. So the navy was deprived of its aircraft.

While these grave mistakes were made in fighting material, sea power was also weakened in its second element—Bases. Evidence of their importance and of the part they had recently played was not wanting. Those responsible for the Treaty of Versailles had shown that they realized it in relation to the German bases in Africa, and the dependence of flotillas on Irish ports was fresh in the memory of everyone: at the time of the first Irish Treaty the Admiralty had said that "it would be very difficult, perhaps almost impossible to feed the island in time of war without them". Yet these bases were abandoned, and an attempt was even made to stop the construction of a base at Singapore. The aerial defences of Malta and Gibraltar were entirely neglected.

Finally, in the third element, shipping, the merchant navy was suffered to meet the full blast of competition with heavily subsidized foreign merchant fleets. It dwindled to a bare half of its previous tonnage, with serious effect upon its capacity both to carry the goods and armies that must cross the sea in war, and to stand the losses which, even in the most effective conditions of defence, it is bound to suffer. Shipyards were shut down and skilled men drifted into other employments or emigrated.

To complete the picture, Germany was permitted to abrogate the treaty which had limited her navy and forbidden her to build large battleships, heavy cruisers and submarines. This permission was accorded without consultation with our co-signatory, France, who was confronted with a Germany placed upon an equality with her at sea. The result was a wave of French indignation, particularly among naval officers, which has not been without its effect upon the relations between Britain and France during the present war.

When war broke out in September 1939, while British sea power had been gravely compromised, Germany's had been in a constant state of reconstruction and growth. She already possessed some heavy ships and about three score submarines, and her shipyards were busy with many more and with the fitting out of armed merchantment for attack on commerce. That attack was to be threefold. Submarines were to intercept trade in the approaches to the kingdom, throwing to the winds those restrictions on methods to which Germany herself had subscribed. They were to be sent out in advance so as to be in position at zero hour. Heavy armoured cruisers were to go out on the trade routes. The German naval strategists had taken note of the weakened cruiser forces of Britain and of the types of 'light' unarmoured ships to which they were confined, and had built armoured vessels mounting eleven-inch guns —none of the British could carry larger than eight-inch, and of these there were few. It was calculated that one such armoured ship would be a match for as many as three, or even four, of the British types, and that the limited number of these would make it impossible to give adequate protection to every one of the many convoys that the needs of the country would call for. The calculation that even a few of these heavy ships would cripple trade was justified on 'ballistic' grounds. Thus the secondary armament alone of the *Graf Spee* was equal to the whole armament of one of the lesser cruisers that fought her off the Plate River, and her whole broadside weighed 4700 lb. against 3136 of the three British ships.

Besides providing the regular ships of the navy, great care was taken in arming and fitting out German merchant ships as raiders. These were ships of moderate size—not more than 10,000 tons—fast, provisioned and fuelled for long periods, armed with several 5·9-inch guns and torpedoes, aircraft for scouting, and mines, and capable of being altered in appearance by false upper works, boats, masts and funnels and frequent repainting. They carried crews of over 300, and were to be met in remote and uninhabited spots, such as islands or anchorages in the Indian Ocean or South America, by supply ships.

The third weapon was the mine. An extensive mining campaign was to be conducted. A magnetic mine—itself a British invention—with highly ingenious mechanism, had been made which could be laid from aircraft in the estuaries and shoal waters round the kingdom. It lay on the bottom and thus, having no moorings, could not be destroyed by the ordinary processes of sweeping. It was confidently expected that there was no way by which it could be dealt with. It was brought into use in the latter part of 1939 and caused a heavy loss of ships before an answer to it was found. It was supplemented by an acoustic mine, exploded by the noise of a ship's engines when passing over it. To that too an answer had to be, and was, found, though it took time and many ships were sunk.

The combination of convoy in home waters, of cruising in the outer seas, of mine-sweeping, observation and devices against the mines, kept the shipping losses within reasonable bounds during the first nine months of the war while the flotillas were still little reduced by loss and the assistance of the French fleet continued. A bad turn then came, beginning with the invasion of Norway. That invasion, of which the primary object was to obtain naval bases outside the Heligoland Bight, had been meticulously prepared by the enemy in every respect, from internal corruption, attack without warning or quarrel, the use of the 'Trojan horse' and the employment of all the new weapons of sea warfare in combination,

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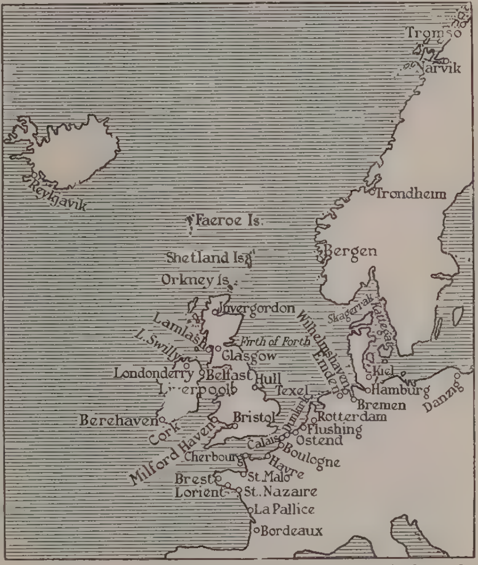
(Above) *One of the British motor torpedo boats used to attack the coastal communications which supply enemy forces in the Low Countries and France.* (Right) *Scuttling of the heavy armoured ship* Graf Spee *in the River Plate after action with three British unarmoured cruisers*

including the transport of troops by air.

The allied defeats on the Continent gave Germany naval bases from Narvik to the Pyrenees which enabled her to intensify her attack on shipping. Aircraft could then act all over the North Sea and into the Atlantic, in addition to submarines which had until then acted alone, and small motor boats of high speed—again a British invention of the last war—could take part in attacking the coastal trade. The possession of ports along the French coast assisted the movements of supply ships for the larger cruisers which now operated from Brest.

At the same time as France threw in her hand, Italy joined the enemy. The position in the Mediterranean had rested on the strength of the Allied navies. Britain now found herself in marked inferiority, in all classes of ships, to Italy who, in addition to her six battleships and several cruisers, had a numerous flotilla of surface ships and submarines and the whole of her air forces. Detachments had to be made from a flotilla already greatly weakened by losses in the Norway and Dunkirk evacuations to the Mediterranean.

British shipping losses went up by bounds. Fortunately the Italian army and navy suffered from an extreme diffidence and refrained from making use of their undisputed superiority on land, at sea and in the air to invade Egypt or attempt to come to action with the British fleet. At the same time the British had cause to be thankful for that measure of foresight and understanding of the German mind through which Germany was deprived of those colonies in Africa in which she had intended to create naval bases on the Atlantic and Indian Ocean.



Stanford, London

The expulsion of the Italians from East Africa, depriving Italy of bases in the Red Sea and on the coast of Africa, was a valuable stroke in the defence of trade. But Germany's eyes were never deflected from Dakar and Casablanca and it was a catastrophe of the first order, which cost us many ships, that the expedition against that port was so indifferently planned. With Dakar, German naval and air forces were able to exercise severe pressure in the comparatively narrow waist of 2000 miles of sea between it and the opposite salient of South America.

The German attack on Russia in June 1941 threw fresh demands on British sea power. Russia, for all her development of industry,

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The aircraft carrier Illustrious, *which was severely damaged while escorting a convoy to Malta but is now back in service*

needed munitions most urgently; she had lost, in the first spate of the German onrush, many of her manufacturing resources. Munitions could reach her by sea only, either by way of the Cape and the Persian Gulf or north about Murmansk. The significance of the Norwegian invasion was doubled, for the short-ranged forces of aircraft and motor boats as well as the heavy and light ships could reach and attack the convoys on their way to Russia, forced by navigation conditions to take a route within striking range of the Norwegian bases. Our bases lay much further off, making it impossible for us to accompany our convoys with the appropriate forms of defence—fighter aircraft in greater numbers and motor gunboats. Four strongly defended German bases have been created—Narvik, Tromsö, Bergen and Trondheim.

By the disablement of the American Pacific fleet at Pearl Harbour, made under cover of a pretence that negotiations were sincerely in progress and without a declaration of war, Japan obtained temporary command of the Pacific Ocean and the Indian sea. The British possessions, whose security depended wholly upon sea power, were at once deprived of their shield and quickly overrun. So too were the Dutch islands, which in turn depended on the British navy for defence against their powerful neighbour and served, as the Low Countries in Europe served Great Britain, as a buffer between that aggressor nation and the British Dominions in Australasia. In enemy hands they are stepping-stones, set close together, for the advance of military and air forces to the north of Australia. The impossibility of defending a two-hemisphere empire with a less than one-hemisphere navy was pointed out by Lord Jellicoe when he made his world cruise after the last war. His warning, and his proposals, had been disregarded, with the results that Malaya, Borneo and Burma fell into the enemy's hands, Singapore was lost, India and Australia exposed to invasion, and the trade of the eastern seas suffered grave losses.

Ceylon, with its minor but very important base, Trincomali, was attacked but the timely arrival of a force of Hudsons drove off the attackers. Further south, two positions are important—the islands of Mauritius and Madagascar. Mauritius is fortified and Madagascar has been occupied, but the holding of both depends on our retention of the command of the sea. If this had passed from us before our expedition arrived, the route along the east coast of Africa by which the British armies in Egypt and Persia and, in part, the Russian armies, were supplied, those forces would have been in the gravest danger.

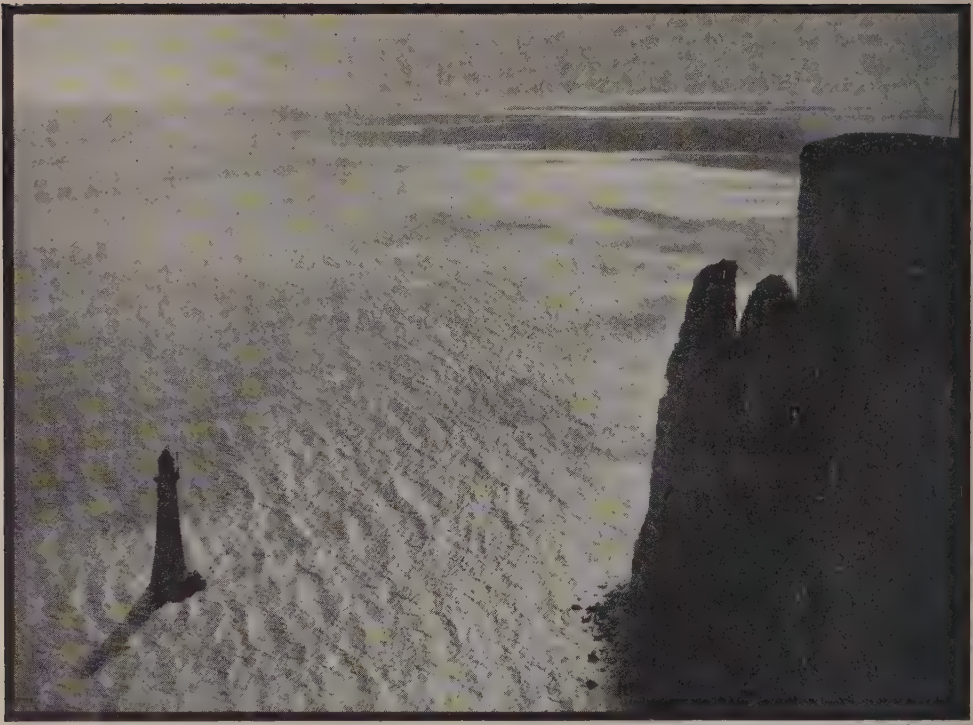
While it was the loss of sea power that brought about this series of disasters, unequalled in our history, the threat of still further losses was averted by sea power. Two Japanese expeditions, one directed against Australia and one against the American bases at Midway Island and, probably, Honolulu, were intercepted by the American fleet and broken up. Later, an American expedition landed in the Solomon Islands, which, in the hands of the enemy, would constitute a serious threat to Australia, flanking as they do on the line of communications with America.

Like the campaigns in the North Sea and Atlantic, that in the Eastern seas illustrates the threefold nature of sea power. The means by which the Japanese have attained their successes, apart from the initial treachery, is sea power, consisting of a combination of fighting ships and vessels of every type, including those in the air, bases, and a merchant navy numerous and fast which has been studiously fostered by an elaborate system of subsidies. The task of ejecting the Japanese from their conquests will be a difficult one in the face of the heavily fortified chain of bases from which shore-based aircraft can work, and in the absence of any allied bases until recapture shall have placed them in our hands.

While the influence of positions on sea power is thus so abundantly illustrated, so too is the interdependence of all the theatres of the war at sea illustrated by the effects of the German submarine campaign on the naval situation as a whole. The increasingly effective defence of shipping in the Western Approaches, where sea and air units of the British command operate under a single direction, had thrust the attackers further away from the vital area to the west of Ireland. With the entry of the United States into the war large numbers of the U-boats were sent to the American coast to interrupt the highly important coastal services of shipping by whose means the whole distribution of goods is effected. Losses have been suffered by the United States for want of a sufficient number of light craft to provide an effective convoy service.

While the direct defence of the sea communications rests with sea power it has always been supplemented by action of another kind. One of the many activities of the British army in the wars of the past was that of capturing the naval bases of the enemy and destroying the ships in them. The attacks on the German colonies in the last war originated in that intention, and we have seen the laments of the German admirals that their cruiser warfare was crippled by the absence of oversea bases, and their proposals to re-establish these bases in Africa. In the present war an attempt is being made to apply the new instrument of the air to this object by bombarding the commerce attackers in their bases and disabling the building facilities in the German yards. The submarine bases and ports in France have been the targets of the Coastal Command, and the building yards at Wilhelmshaven, Hamburg, Emden, Bremen, Danzig, Lübeck and Rostock of Bomber Command. The bombing of ports and submarine bases can, however, only partially solve the problem, for there remains a large number of enemy craft at sea whose destruction is necessary and this cannot be achieved by the 'long term' policy of bombing: nor does the bombing affect the German surface forces of light craft or their aircraft which, as we know, contribute a respectable proportion to the losses, or the navies of Italy and Japan. Nothing but the most strenuous efforts at sea of all types of fighting instruments capable of taking part in the operations of sea warfare can effectively reduce our losses and destroy the naval forces of the enemy.

Writing over half a century ago at a time when our sea power was being gravely neglected, Admiral Colomb said, "Keep the command of the sea as you value the national life. Without it you will speedily be blotted out from the list of great nations." That advice has been neglected, and the results of that neglect are plain. The first object of our strategy and production must now be the recovery of our command of the sea, and we should bend all the efforts of our combined fighting forces primarily to that task. It is a hard task, beyond doubt, but victory depends upon its successful performance.



British Council

Lighthouse Life

by J. P. BOWEN

LIGHTHOUSES, fog signals and wireless aids to navigation can now be found on main shipping routes throughout the world, and, though they may differ in detail and design, their principles and object have a common significance. A description of a few of the lighthouses maintained by the Corporation of Trinity House on passage up the English Channel to the Port of London will suffice to give a representative view.

Coming in from the Atlantic the first landfall is the Scilly Isles, about twenty-five miles from the Cornish seaboard, and the first landfall light is shown from the Bishop Rock tower, standing on the southernmost exposed rock, a sharp pinnacle jutting up from the sea. This lighthouse is built of grey granite, with all the stones interlocked, and rises to 167 feet above sea level. It has a solid cylindrical base of nearly 41 feet diameter reaching to 23 feet above high water, its object being to present a vertical face to the waves and break up the direct impact of the heaviest Atlantic swell. At the top of this base is a set-off which acts as a landing platform and provides a walk-way for the keepers in calm weather; above it the tower rises with a graceful curve, the first 24 feet of the shaft being solid and the walls thence of varying thickness, reducing from 8 feet at the bottom to 2½ feet at the top, to increase the size of the rooms within as much as is consistent with the stabilizing weight required to withstand the shock of the sea.

There are eight rooms in the tower, superimposed one above the other, but only three of them can be reserved for living accommodation. The remainder have to be allotted to the operational requirements of the lighthouse and its fog signal, which is an explosive charge fired electrically at regular intervals. Except in the calmest of weather it is not possible to step ashore on the rock; to land at the lighthouse the relief boat has to be

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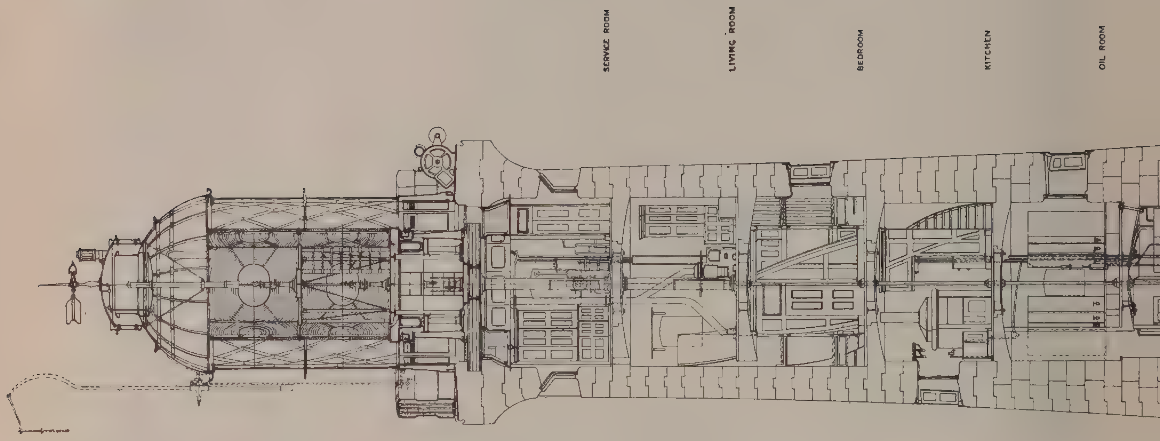
The Bishop Rock Lighthouse relief-boat moored in an angry swell alongside the tower while the newly landed duty keeper helps his mate to hoist stores and provisions ashore

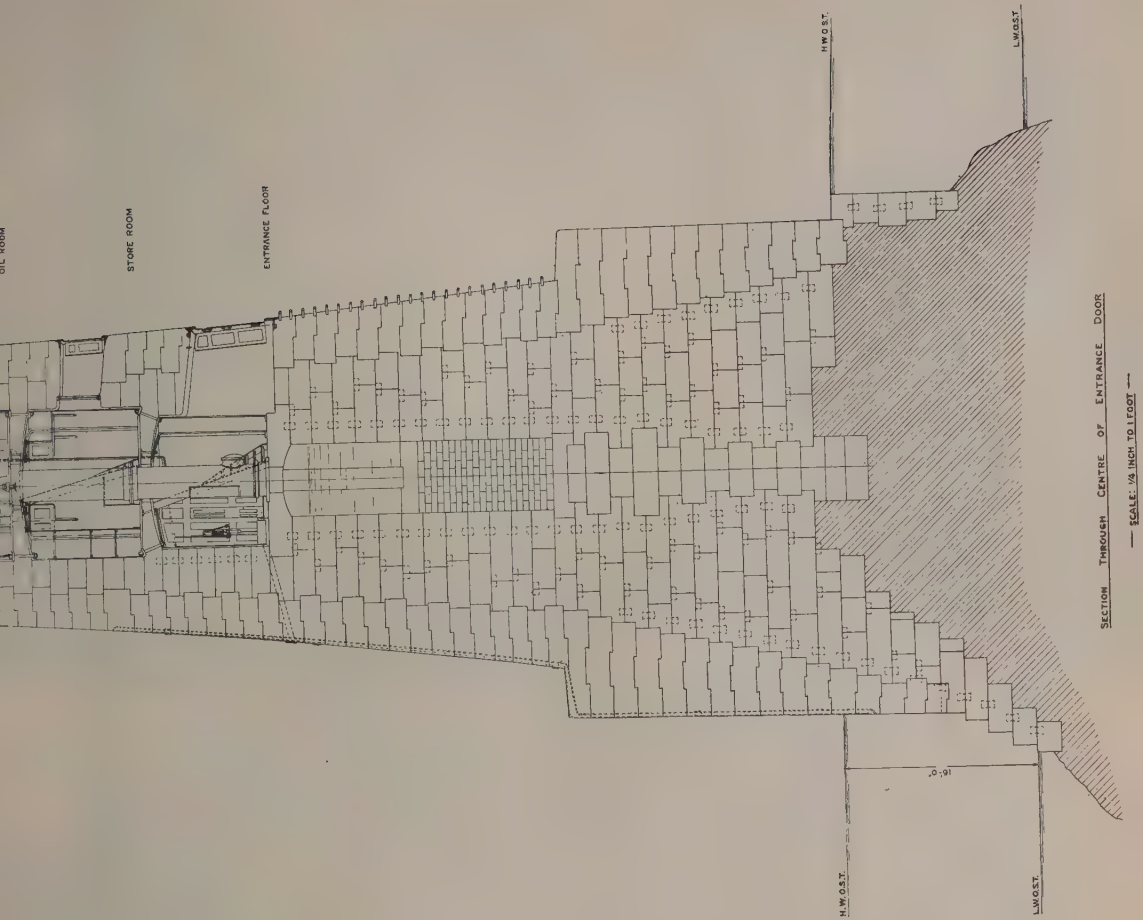


Scale plan of the Bishop Rock Lighthouse. The letters H.W.O.S.T. and L.W.O.S.T. stand for High Water and Low Water Ordinary Spring Tides

moored off the tower and the personnel hoisted on to the offset by rope and winch with a man-line to the boat to control their movements as they go up. This is the normal method for landing at all isolated rock lighthouses. After arriving on the offset the men have to climb up the face of the tower by a series of twenty-three step rungs before entry to the lighthouse is gained. From the Entrance Room the floors above are reached by flights of spiral stairs running round and up the tower, each room being partitioned off and having its own separate door to eliminate draught. The entrance door is of heavy design to hold up against the weight of the sea and is made of gunmetal to prevent rust; through it all stores and lighthouse gear have to be brought.

The seven rooms above are successively the Store Room, where general stores for the lighthouse and the keepers' provisions are kept and where also is the magazine containing the explosive charges for the fog signal; the Oil Room where oil for running the light and machinery is stored; a second Oil Room; the Living Room in which the keepers cook and have their meals; the Bedroom with circular wooden bunks curtained off; a Recreation Room, formerly a machinery room and liable at any time to be re-used as such; and the Service Room where the lantern and service watches are kept and a wireless telephone for communicating with the shore.

Mounted on the tower is the lantern, 14 feet in diameter with heavy cast-iron pedestal and domed roof and a daylight glazing height of 15 feet; within it stands a large biform lens light, displaying, in quick succession every fifteen seconds as it revolves, two white light beams of over half a million candlepower.



This apparatus weighs about four tons and floats in a bath of mercury, which reduces the friction of rotation to such an extent that the lens, when once set in motion, can be moved round with the little finger; nevertheless, despite its weight the force of the waves against this tower is sometimes so great that mercury is spilled from the bath through vibration transmitted to the apparatus. Outside the lantern is the lighthouse gallery, forming an observation and signalling platform and giving access to the explosive jib from which a tonite charge is fired every five minutes during fog to warn the mariner of the dangers of this rocky reef.

Four keepers form the establishment of this lighthouse, three always on the rock on duty at a time. By a system of regular reliefs each serves two months continuously at the tower and then has a month ashore with his family.

To the layman a rock lightkeeper's life may seem to be one of desolate isolation, but the keepers have no time for boredom as they have many duties to undertake. During the night the light must be tended at all times, and by day as well as by night the fog signal must be sounded if there is fog about. An average daily watch during the height of the winter may easily reach to eight hours per keeper. In addition, during the day there are regular periodical cleaning duties to perform, which, besides polishing up the apparatus with its 350 square feet of glass, to ensure that the lenses are clean and free from blemish, mean washing fifty-six large lantern panes inside and out, general cleansing of the tower and the sweeping-down of over one hundred steps. Then there are the domestic requirements, perhaps even more onerous than in many ordinary households: they include

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pumping water for cooking and washing and carrying oil for lamps up the tower from the storage tanks below, making and baking bread as well as daily cooking and the usual routine of domestic life. In most lighthouses nowadays the keepers have wireless receiving sets so that they can listen-in to broadcast programmes; but otherwise their recreation is limited to an occasional letter home (to be posted when the relief boat calls), reading, making models and such fishing as is possible from an exposed rock tower like the Bishop Rock. Generally it is too dangerous during most days of the year to fish from the offset, and the method employed is a kite which flies the line off from the tower. Many a fish up to 10 lb. in weight has been caught from this tower.

Proceeding towards the mainland we pass an outpost lighthouse at the Wolf Rock, so called because of the cavernous bark caused by trapped air escaping from a submarine cave below during a wild sea. This tower is smaller than the Bishop Rock with consequently less accommodation; it has a landing platform but no vertical base to break up the waves, and in stormy weather green seas and spray run right up the tower and almost entirely hide it from view. Because of the heavy ground-swell which runs around this

(Top left) *A marooned keeper homeward bound after being four weeks overdue.* (Top right) *The domestic and almost homely side of lighthouse life.* (Above) *A keeper putting his leisure hours to useful purpose.* (Opposite) *Kindling the light for the night watch. The apparatus shown here is of an old type*

Picture Post

rock, landing can only be effected by crane hoist as at the Bishop Rock, and because of its remoteness from shore the keepers' two-months stay is frequently exceeded during the winter, as the reliefs are often overdue through stress of weather; they have, however, their full month ashore afterwards as compensation.

The mainland landfall is at Lizard, whence we pass on up channel to that epic of towers, the stately Eddystone, built by Sir James Douglass and completed in 1882. It is the fourth to be erected to mark this famous rock. So much has already been written about it that comment here is unnecessary.

From Eddystone our journey takes us past

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The Wolf Rock Lighthouse, serene in its isolation before the storm. (Opposite, left) *The lighthouse tender leaving the Eddystone after completing the relief.* (Right) *St Catherine's, Isle of Wight*

Start Point to St Catherine's, the southernmost point of the Isle of Wight, where stands a tower of historic interest. Two earlier lighthouses—one completed, the other unfinished and both now in ruins—can be found further inland at Blackgang on the high ground of Niton Downs. The former dates back to the 14th century, and legend has it that on a stormy night in the winter of 1314 a vessel conveying white wine, belonging to the religious community of Livers, from Picardy to England drove ashore on the Atherfield Ledge to the westward. The sailors who escaped illicitly sold their cargo, of which part was bought by an Island landowner, Walter de Godeton. As a punishment for receiving stolen goods, he was required "to build on the Downs above the scene of the disaster a lighthouse to warn ships and to found an oratory for a priest to say Masses for the souls of those lost at sea and trim the light". This lighthouse fell into disuse during the Reformation, but in 1785 the Trinity House decided to build a new one alongside but a little nearer the coast than the older one. The Downs hereabouts are frequently mist-capped and, though the tower was partly built, the project was later abandoned, probably for this reason.

The present St Catherine's Lighthouse, erected on the Point itself at a much lower elevation, was built in 1838. It too, even in this new position, was found on occasion to be mist-capped, and in 1875 the tower, formerly 94 feet from floor to gallery, was shortened to 52¾ feet and the head re-set. A powerful electric light was installed in 1888, and in 1931 the lighthouse was further improved and an annexe built onto the existing tower to house a modern siren fog signal. The beams of this light are of several million candlepower and have a clear-weather range of about twenty miles from a ship with a 45-foot bridge; but their loom can sometimes be seen in the Channel Islands some seventy miles distant when the weather is very clear and the sky rare, though this is usually a portent of bad weather. On shore there are several attractions for its occupants, including a neighbouring village, a regular postal service and fresh milk and food. The station is manned by three resident keepers each of whom has his own private dwelling where he can live with his family. As on the rock towers, there are the regular service duties to attend to and day and night watches to be kept, but the keepers are free of domestic cares. On the other side of the balance they have to function each day all the year round and do not have periodical relief except during their spell of annual leave.

Beyond St Catherine's the next point of interest is Dungeness where a vast shingle bank, stretching some miles inland, has been gradually thrown up by the sea and continues to extend seaward at the Ness at the rate of about 5 feet a year. There are two towers at the Point, one a high tower about 600 yards inshore carrying the making light, essentially lofty because of the low-lying nature of the beach; the other a low tower with a minor light marking the Point itself, as the bank

Fox Photos

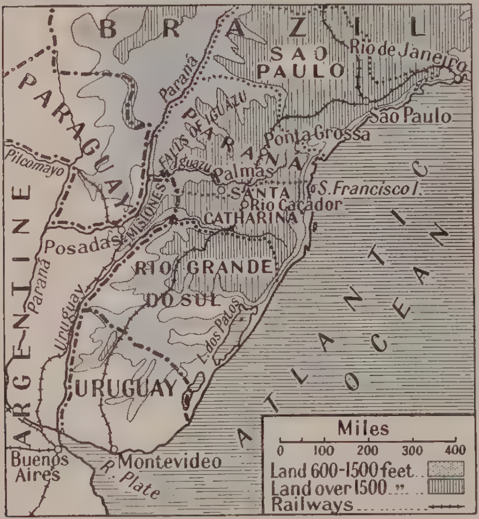
Trinity House

shelves steeply and ships frequently pass close inshore. Alongside the low light is also the fog signal-house with its powerful horn placed as near as possible to the danger. In addition there is a radio beacon giving a wireless directional service at the main tower. If the shingle beach is viewed from the gallery of the high tower it can be seen presenting an undulating surface stretching for some distance inshore, indicating a gradual building-up of the bank by wave action with the crests suggesting periods of continuous gales.

From Dungeness we pass on through the Straits of Dover with its white chalk cliffs past the South Foreland to the East Coast and its sandbanks, beginning with the treacherous Goodwin Sands where in bygone days many ships and cargoes have been swallowed up. These banks are marked by a series of light-vessels of which a modern example can be seen at the Tongue. From a lantern on a central trestle tower is shown a powerful electric light, and for the fog warning there is a fog-horn with a range of seven miles. The ship is also fitted with a wireless telephone so that the master can keep in constant communication with the shore for life-saving purposes. The crew of the light-vessel consists of a master and six ratings always on board, and a master and three ratings in reserve ashore; the masters are relieved every fortnight and the remainder of the crew every month: all thus have fourteen days ashore between their turns of duty.

Life on a lightship has more romance than on a rock lighthouse, for, unlike the lighthouse keepers who tend their light and live their lives in a rock fastness, lightsmen know and experience the perils of the deep and battle with the furies of the elements. They have more room for exercise and probably more to occupy their minds: they have always a deck-watch to keep, while the amount of machinery to be tended is frequently greater. The ship has to be kept in good order and the cable veered away and hove in as the weather worsens or moderates. Being almost directly on the shipping routes they can speak passing ships. But their exposed position makes them subject to the dangers of collision during fog, as happened to No. 38 light-vessel, sunk at the Gull Station with the loss of her crew some years back, but subsequently raised and, though an old ship, once again in commission. When bad weather threatens, light-vessels cannot like other ships seek a safe anchorage but must ride out the severest gale and continue to mark the shoal and maintain their position through all weathers, fair and foul, to assist navigation, and as their safety depends on their mooring cable it must be of ample strength and sufficient length to meet all conditions of sea.

From the Goodwins we pass up through the Thames estuary with its many and tortuous channels marked by minor lights and buoys, some carrying high pillars and other special daymarks. Thence we go on up into the river with its shore lights and more buoys to guide us until the harbour and pier lights, alongside which our ship will finally berth, come to view.



The Matto and Campos of Southern Brazil

by J. L. ALEXANDER

In November last we published an article which gave a general view of what a European traveller might expect to find in Brazil. Now Mr Alexander describes a small area of more specialized interest with which he is familiar

Brazil has been described as a land of promise and a land of death; a paradise of "green mansions", and a jungle of green hell. And all that most Britons who have not seen it know about it is that its capital is Rio de Janeiro, and that the Amazon runs through northern Brazil, which is largely composed of tropical forest. But they often know nothing at all about the south, which is very different and may, in the future, attract the attention of Scots and English who wish to settle in a country where there is peace, every chance of prosperity and, above all, space.

From the southern border of Sao Paulo, the great coffee-growing state and the richest in the federation, to the northern boundary of Uruguay there is a belt of country roughly 800 miles long and from two to three hundred miles wide where a European can live in a climate that is as healthy and pleasant as the best of the Mediterranean zone. It has been largely settled by Germans, Italians and

All photographs from the author

The family of a Coboclo or Peon of the Matto. They are self-supporting and well adapted to the rough and ready life of the Brazilian forest. Opposite are some of the Zebu cattle originally imported to Brazil from India

Poles, and is in consequence at once the most progressive, and at present potentially the most dangerous, part of Brazil.

To the east of the railway which runs from Sao Paulo to Uruguay the country is settled and comparatively developed, but to the west the Campos and forest roll away to the river Paraná and the borders of Paraguay. Communications are few and life is primitive.

I spent three months riding through this country to the great falls of Iguazu on the borders of the Argentine, Paraguay and Brazil, and many more living on ranches and in forest huts with men who were struggling to develop virgin land. The country lies about 3000 ft. above sea level and the timber is mostly pine—the Pinho do Paraná, of the Araucaria family—which is exported to the Argentine in large quantities from parts of the forest that lie within economic range of the railway. The range is not great and one leaves all sign of modernity and commerce behind after a day's ride westward. The villages along the railway are living counterparts of the townships of the Wild West films—wooden shacks with railed verandahs, dirty 'hotels' where all the guests sleep in one big loft under the roof, and gauchos and peons or *coboclos*, as they are called in Brazil, drink *caña*, play cards and spit on the mud-covered floor. It is customary to carry a revolver.

My ride to Iguazu began from the small township of Rio Caçador—river of the hunter—in the state of Santa Catharina, and my two companions were true Brazilians of the Interior. They were of mixed blood—descended from Portuguese, who had struggled from the coast, fought the Indians and settled on land which they cleared in the matto, and Indian women and the daughters of African slaves.

Ethnologically Brazil has an interesting future, for almost every European nation is represented, and there is no colour prejudice. Peoples of different origin live amicably side by side and intermarry. A distinct type will, in all probability, be the result.

Below the tall umbrella-shaped pines the matto is frequently shut in by dense bamboo, and it takes a man with a *machete* many hours to cut his way a few miles through the undergrowth. At intervals along the track are large areas of cleared land where oxen, pigs and mules graze on the short mat-like grass that has taken the place of bamboo and scrub. These are the clearings in which the old pioneers settled, and the shacks of their descendants are as primitive as those of the early days, built of hand-cut planks, and with mud floors. The old men are patriarchal in appearance, with long straight beards and the Mongolian eyes that betray Indian blood.

The dress of the coboclo of the matto is as simple as his habitation, and consists of cotton shirt and trousers and broad-brimmed hat of felt or straw. He is practically self-supporting, growing his own maize, beans and mandioca—a tuber vegetable which is ground into a flour. His diet consists of this flour sprinkled over a mixture of boiled black beans, mutton or pork and a little rice. He lives contentedly on this all the year round, only varying it with a barbecue on special occasions. He breeds his own stock, and his pigs, wild and ugly creatures, fatten on the fruit of the pine trees. This is like a cone, the size of a coconut before it has had the fibre removed, and splits up into nuts somewhat similar to the Spanish chestnut, and they, too, are good when roasted.

The coboclos' chief diversion is derived from drinking caña, or *cachasa*, as it is called in Brazil, distilled from sugar cane, and very potent. When there is occasion for celebration an entire ox is roasted in the open and drink is copiously consumed. These fiestas not infrequently give rise to quarrels with tragic consequences that in the rough and ready life of the Brazilian forest are accepted as a normal part of life. The vendetta, too, is still a scourge in the Interior and causes much senseless bloodshed, sometimes even the wiping out of an entire family.

From the Matto I rode on to the wide rolling Campos, the country of cattle and gauchos. It was good to leave the monotonous forest and the marshes where the fireflies twinkled like millions of city lights seen from a distance, and the bull-frogs kept up their unmelodious chorus throughout the night. The Campos of southern Brazil is much more hilly and beautiful than the Pampas of the Argentine. Parts of it reminded me of Salisbury Plain. To me it is the loveliest country that I have ever travelled in. At 3000 ft. the air is exhilarating, the sun clear and dry as in northern Italy. At night there are severe frosts and in the morning it appears as though a blanket of snow lay over the land. The rime is so thick that it does not melt until the sun is high in the heaven.

Ranches are large and the houses of the ranchers are usually a day's ride apart. Occasionally we met trains of pack mules heading for Rio Caçador with cargoes of skins, waggoners going to the forest for timber or gauchos driving the herds many days' journey to market. Their wild cries, the crack of their long whips and the dust raised by the lowing steer I shall not easily forget.

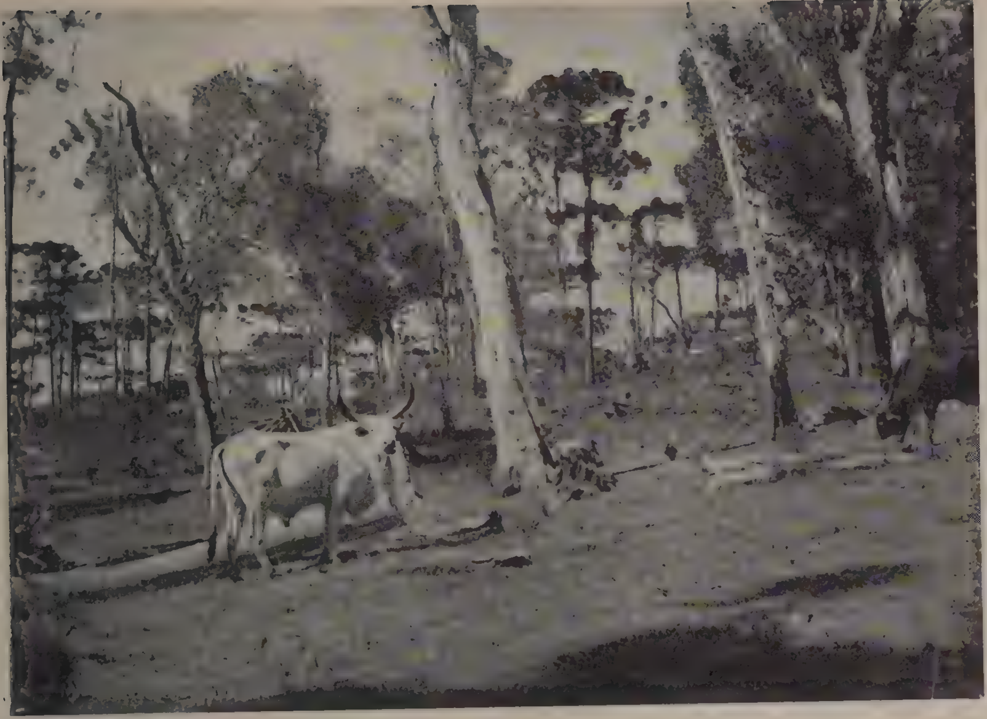
The cattle are mainly of two breeds, the zebu which was originally imported from India and is humped, and the caracu, an old Portuguese stock of chestnut-colour and great size. The caracu is placid, but the zebu is a wild and lively creature, lithe and fleet as a young horse and capable of jumping the highest timber. There is a thrill about the quivering alertness of the Campos steer that one cannot feel for the placid cattle of Europe!

Merino sheep are also grazed, but not to any great extent, for men accustomed to sheep are scarce, and the great distance to the railway and lack of motor transport does not make wool a sound economic product. But Brazil needs wool and, at present, has to import far more than she would need if she were to develop her vast agricultural resources. Little, if anything, has been done to assist the rancher; he has remained shut off from the outside world to lead a life which has hardly changed during the last hundred years.

One of the major delights of the Campos is the rivers, not slow tropical streams, but fresh, swift-running waters of the highlands. They are rocky and clear like the rivers of the Fell district; duck abound and on the grasslands there is no lack of partridge and francolin. The chief vermin are the red wolf and the fox, which is sandier in colour than the English variety. Along the rivers are well-timbered open woodlands where bracken and wild flowers grow, and the grass is short and sweet. There is indeed everything to make this Campos of Paraná and Santa Catharina one of the pleasantest of ranching countries, except that it still lacks the amenities and economic aids to which the average man of the modern world is accustomed.

I fell in love with the life of the gaucho, but realized that one would need very simple tastes and have to find entertainment in an existence which lacks almost everything to which one is used if one settled on the Campos in present conditions. It would be reverting to a state of life that has long since passed away in other parts of the world.

The gaucho is a great gambler and loves to hold races between horses from neighbouring



(Above) *Land partially cleared by settlers, who burn the bamboo and scrub which then gives place to grass.* (Below) *In the Campos of Brazil ranches are large and isolated: the ranchers often lead a life which has changed little during the last hundred years*

The small township of Palmas (above) *on the western edge of the Brazilian Campos.* (Opposite) *The Sete Quedas* (*seven steps*) *falls on the River Paraná*

ranches. Unlike our own conception of a race, they consist of short sprints between two runners. The turf is cut away and a flat earth track, about four hundred yards in length, is laid out. The jockeys ride bareback, and the ranchers and gauchos sit around on their horses or on the ground, smoking and wagering. On occasions a man will gamble away the best part of his land.

It is a romantic scene. The dress of the gaucho is much gayer and smarter than that of the ragged coboclo. His bridle, saddle and stirrups are ornamented with heavy wrought silver; the sheepskins strapped over the saddle for comfort are dyed a bright orange or crimson, and over these again is a finely worked sur-cover of soft leather. He is a swaggering fellow, in poncho, gay neckerchief and baggy trousers known as *bombachas*. His spurs and the butt of his whip are of silver and his belt is embossed with it. His chief loves are his horse and his revolver; with both he is an expert.

Throughout the Campos and the Matto the chief accompaniments of social intercourse are the *chimarao* (pronounced chimaron), and the maize leaf cigarette. The first is an infusion of green Matté tea made in a wooden gourd and sucked through a silver tube. This is passed from hand to hand. each man using the same tube, and is replenished from the ever-ready kettle. The cigarettes are made of strong tobacco cut from twist and rolled in the dried leaf from the maize cob. Matté is not agreeable at first as it is extremely bitter, but one soon acquires a taste for it. A strong stomach is necessary if one is to enjoy the native cigarettes, but they too become agreeable after a time.

From the small township of Palmas—the only town in this great area of Campos—I went out to see the Indians in their villages. They are not a prepossessing people, and show signs of malnutrition. Palmas itself is on the western edge of the Campos, beyond it the Matto stretches to Paraguay, with here and there small tracts of grassland which is much less clean than the high country, but, nevertheless, usually settled by some lonely

and remote family of the Matto—a family no member of which has ever seen locomotive or automobile or even a village consisting of anything but a few shabby huts.

The pure-blooded Indians live apart in the Matto; sometimes they show signs of being touched by civilization, in that they wear trousers or a cotton shirt, but generally they live as they have since the beginning of time—two-legged animals of the forest—they go naked in the bitterest weather, and their skin is like hide. They sleep in a kind of bag made of moss and leaves. Sometimes they collect bark for dyes and bring it to Brazilian stores for trade. But they are not interested in the white man or his ways. By the Brazilians they are known as *Bugre* or *Indiginos*, and are not loved by the rancher, as they emerge from the Matto at night and kill cattle. They skin the carcase on the spot, take what meat they can carry and no trace of them is found. The lingua franca throughout the south is Guarani which is the language of the Paraguayan Indians. Each tribe has its own dialect; it sounds Mongolian to the outsider.

The Indians are great horse thieves. Their tracks are almost undetectable, and during the night they are liable to lead the grazing horse of the traveller far away into the Matto. It is useless to search, but usually the little men come up with deprecating grins and offer to find the animal themselves on payment of a small sum. It is a fool who turns the offer down. Another unpleasant habit they have is to pass the wayfarer with cordial salutations and then double back into the forest and ambush him.

From Palmas the country slopes gradually down towards the border of Misiones, the north-eastern state of the Argentine. It becomes hotter and wilder, and the matto more dense and tropical as one travels across the watershed of the river Iguazu. On maps of South America things are often marked which do not exist in fact. For instance, a railway running from Ponta Grossa to Palmas is shown. There is no such railway, only a muddy road across the Campos, built for supposedly strategic reasons during the time of President Getulio Vargas's predecessor. Beyond Palmas the wall of matto which covers the hundred odd miles to the greater sub-tropical forest beyond the Argentine frontier was left as a natural barrier between the two countries.

This country is sparsely inhabited and abounds with game. The pine and thin bamboo of the high matto give way to enormous trees—cypresses, imbuya, from which much of the furniture of South America is manufactured, and other giant hard woods. Lianas festoon the branches and bright orchids hang like Chinese lanterns from bough and twig. Brightest of all is the Flame Tree, ablaze with blossom, rose-madder in colour. Snakes are common all over Brazil and in this sub-tropical jungle beside the rattler, the gay coral snake that resembles a Mexican head ornament, the savage flat-headed javaracaçu and many others, there are numerous varieties of tree snake, from the boa-constrictor to a sinister yellow and green species, which attains a length of about nine feet. The tracks are narrow and overgrown by thorn, and while trying to avoid being torn to ribbons, to remain in the saddle and to keep

Indians of the Matto, called by the Brazilians Bugre *or* Indiginos. *They take no interest in the white man and his ways and are unpopular with ranchers as they often kill the cattle* my hat on I have frequently become aware of one of these serpents a few feet from my head. My horse was perfectly trained and would stand quietly while I shot at game or snake with a .16 bore gun or Mannlicher rifle.

I saw many puma, jaguar and ocelot, and, once, what appeared to be a black panther taking a dust bath in my path. The thick hided tapir that looks like a cross between a pig and an elephant crashed through the undergrowth, and sometimes I would come upon a giant ant-eater or a matto dog, a kind of large jackal, nosing in the track. In the rivers, which are slow and shallow, there is alligator and capybara, the world's largest rodent, like a monstrous guinea-pig, amiable and easily tamed; but, unfortunately for him, his meat is deliciously succulent. Among the smaller animals there are the armadillo, also good eating, and the pecaré or bush pig which roams in herds and is unpleasantly savage. In the trees the giant sloth hangs in sleep and howler monkeys make a roaring sound that can be heard far off.

Insect life is the main drawback of this territory and becomes worse as one approaches the low country surrounding the confluence of the rivers Iguazu and Paraná. The tarantula has no preference as to climate and is found in both highlands and lowlands. Swarms of hornet-like flies, with long sharp proboscis, and small black sand-flies torment rider and horse throughout the day. The butterflies, though beautiful in the extreme and of great size, are a pest. Wherever there is offal or a rotting carcase they gather in their hundreds, presumably for the sake of the salt, and settle, too, in clouds on the traveller's face and suck at the perspiration—an irritating and 'unbutterfly' habit. They have none of the delicacy of their European cousins.

The falls of Iguazu are among the finest in the world; surpassed only by Victoria Nyanza. The name itself is Guarani for Great Waters, and Iguazu is not a single fall, but a vast broken cliff of cascades. The river widens out to approximately two and a half miles and there is a series of cataracts for two miles before the huge volume of water tumbles over a precipice 250 ft. high. Some of the falls, especially on the Argentine side, are broken by ledges while orchids and begonias and bamboos of great thickness, palms and tree ferns cluster among the rocks.

To approach the cascades one must cross churning water in a dug-out canoe to an island, and to reach the foot of the falls one must descend the cliff of the narrow gorge below by rope-ladder.

The power of Iguazu is computed at five million horse-power. One day the falls may supply the Argentine and Paraguay with immense electrical force. At present they are untapped. The very wildness of their setting and the absence of sightseers enhances their glory.

From Iguazu I rode another 400 miles through forest and over Campos, having crossed the river to the Brazilian bank below the falls in a ramshackle boat, while the horses had to swim through the racing current. Tropical downpours became more and more frequent, and electric storms. During my three months' ride I heard of no other Englishman having taken the same route, and met no gaucho or coboclo who had previously encountered one in the flesh.

My two half-caste companions were pleasant and loyal, and altogether I did not spend more than about eight pounds during the journey, as we had to live on the country; shooting was strictly for the pot, and what I could purchase from the Indians and settlers consisted only of the essential diet of the interior. The horses often went on short commons and foraged for themselves at night, but, although a diet of bamboo shoots and coarse grass is not good for the wind, my best animal ended the trek fitter than when he set out, and the pack mule, said to be over twenty-three years old, never flagged. The people we met and sometimes camped with were friendly and hospitable, although banditry is not uncommon in Brazil's interior, and the traveller must regard every stranger with suspicion. We were well armed and, although we met some tough customers, never encountered serious trouble. Our worst enemies on the return journey were the swollen tributaries which rushed southward to Iguazu. In swimming these we nearly lost our own lives and those of our patient friends, the horses and mules, upon whom our safe return depended.

Probably the last real foreigners to take some of the trails which I travelled were the Jesuit fathers, who were the first intrepid explorers of the greater part of South America. Misiones is named after their evangelical missions. They moved fearlessly into the Indian country in the 16th and 17th centuries, and I heard many tales of lost churches in the Matto which, according to the Indians, still contain treasure of the Society of Jesus. These may or may not be legendary. I had to race against the rains and even stories of gold and emeralds could not induce me to delay, lacking, as I did, all the equipment and medical stores that are the usual paraphernalia of the modern traveller.

Cheltenham

A Regency Town

by HUGH CASSON

Cheltenham is so well known for its Pump Room, its racecourse and its Colleges that its architectural grace has been largely overlooked. Mr Casson calls attention to its merits as a planned town containing superb examples of Regency building

According to local legend, Cheltenham's healing waters were discovered in 1715 by a sick horse, which after drinking from a local spring "was cured of a violent humour and other disorders he laboured under". Let us hope the story is true, for there could be no more appropriate beginning for a town whose fortunes are founded upon the twin industries of ill-health and the horse.

As a Spa and sporting centre Cheltenham is of course well known. It should be more widely celebrated for the architectural grace of the background against which these two conflicting functions are exercised, for Cheltenham is one of those rarities, a *planned* town, divided naturally and by design into two zones of interest. The red-faced clamorous world of the racecourse, the stableyard and the bar parlour is to be found in the oldest part of the town which flanks the long narrow High Street. It is a bustling and rather shabby district, veined with narrow alleys and cobbled yards, and pleasantly small in scale. Architecturally speaking, it is as undistinguished and prodigal of styles as the parish church which forms its focus. Buildings of every size, shape and colour elbow each other along both sides of the High Street, interrupted here and there by the standardized façade of a chain store. Crowded, untidy and rather down-at-heel, it might be the High Street of any large county town.

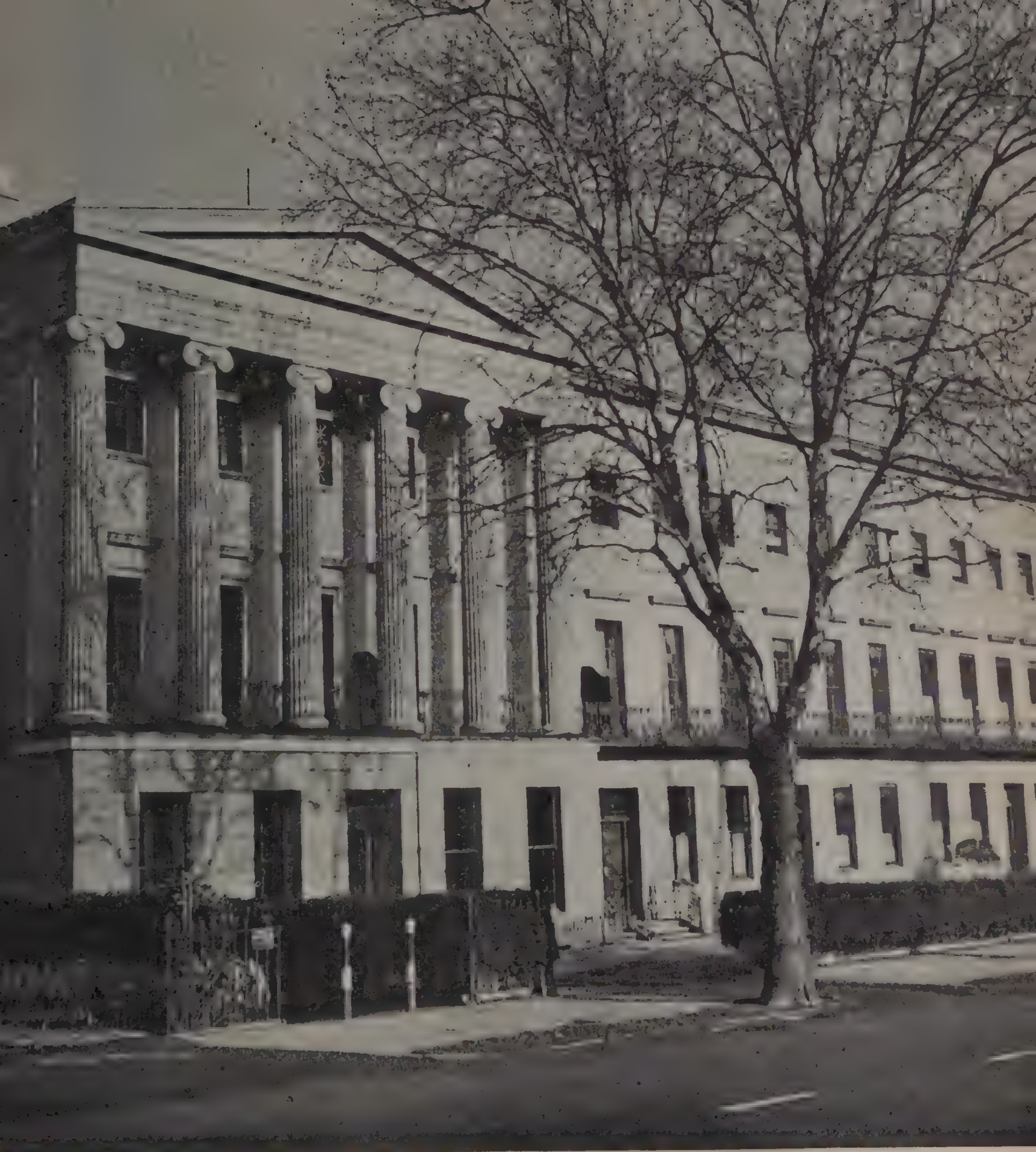
But behind its jerky silhouette of parapet and roof lies the other Cheltenham—a strange, silent, stuccoed, Sitwellian land of parlourmaids, épergnes and chintz, where nothing seems to stir but the leaves of the chestnut trees or a curtain twitched aside in curiosity, and no sound is heard but the tinkle of a teaspoon in a saucer and the bicycle bell of some stray errand-boy.

This is the Cheltenham of the comic papers, the home of the well-worn jokes about Anglo-Indian colonels and eccentric old ladies. For some reason Cheltenham, like Wigan or Chorlton-cum-Hardy, has always been one of those places which gets a laugh.

Perhaps because they are aware of this and are anxious to avoid it, the authors of contemporary guide-books (the *Shell Guide* is an honourable exception) pay little attention to the residential districts which are the architectural glory of the town, and instead fill their pages with photographs of some constricted piece of municipal 'improvement' or of such hideous buildings as the Winter Garden and the Public Library.

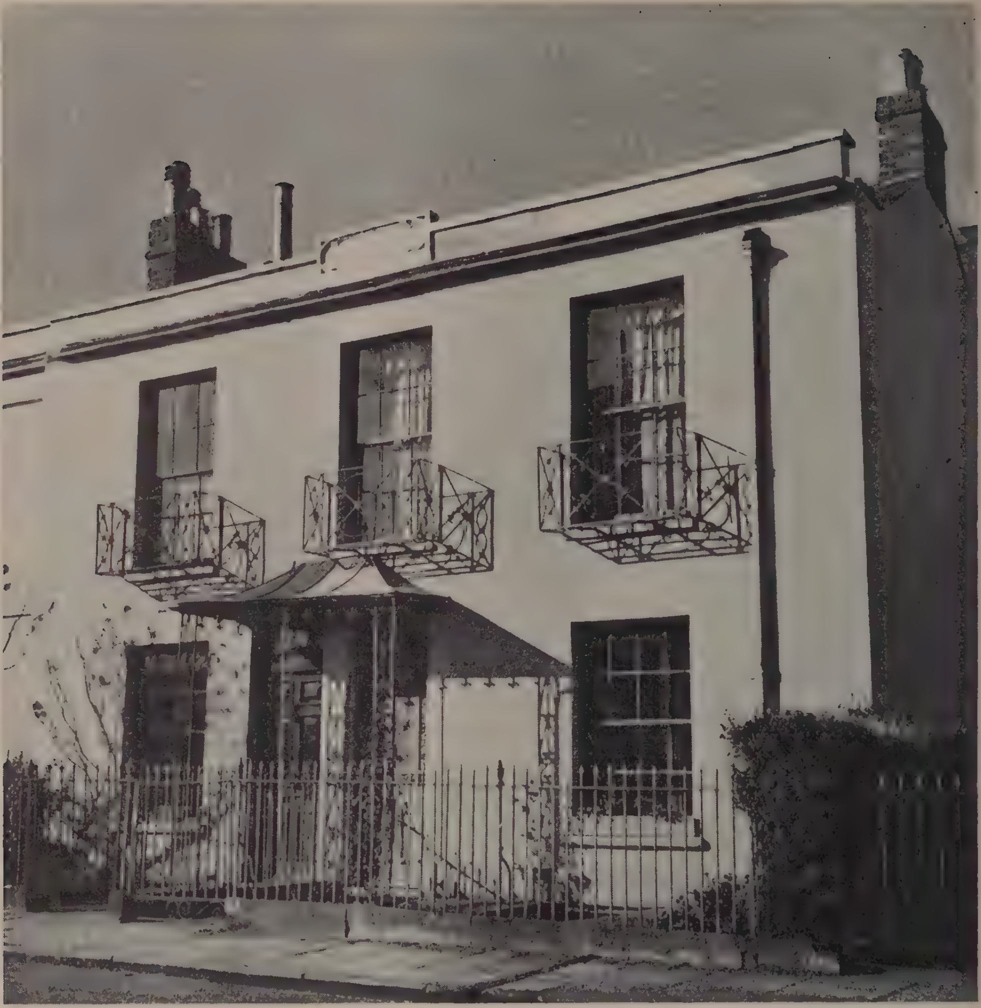
Such distortion of emphasis is unfortunate, for the casual visitor might suppose as a result that the streets of Pittville, Montpellier or Lansdown held no more attraction for the eye than those of Bayswater or Belsize Park. In fact no comparison could be more false, for in these parts of Cheltenham can be found urban architecture at its best—spacious, formal and dignified.

The squares, terraces and crescents of which these districts are composed were nearly all built during the first thirty years of the 19th century. They are, with few exceptions, the work of speculative builders and were erected almost as quickly as any modern suburban estate. As a result, much of the work is ill-considered and shoddy, a collection of smart façades which mark (as they so often do today) poor construction and cheap materials, or, as was said of an earlier period, Queen Anne in front and Mary Ann behind. It has been fashionable in recent years to over-value the virtues of Regency design. In the reaction of taste which will follow it will probably be called, with some justification, copyist and pretentious, theatrical and insincere. As a style it has of course many



Photographs by Margaret Casson

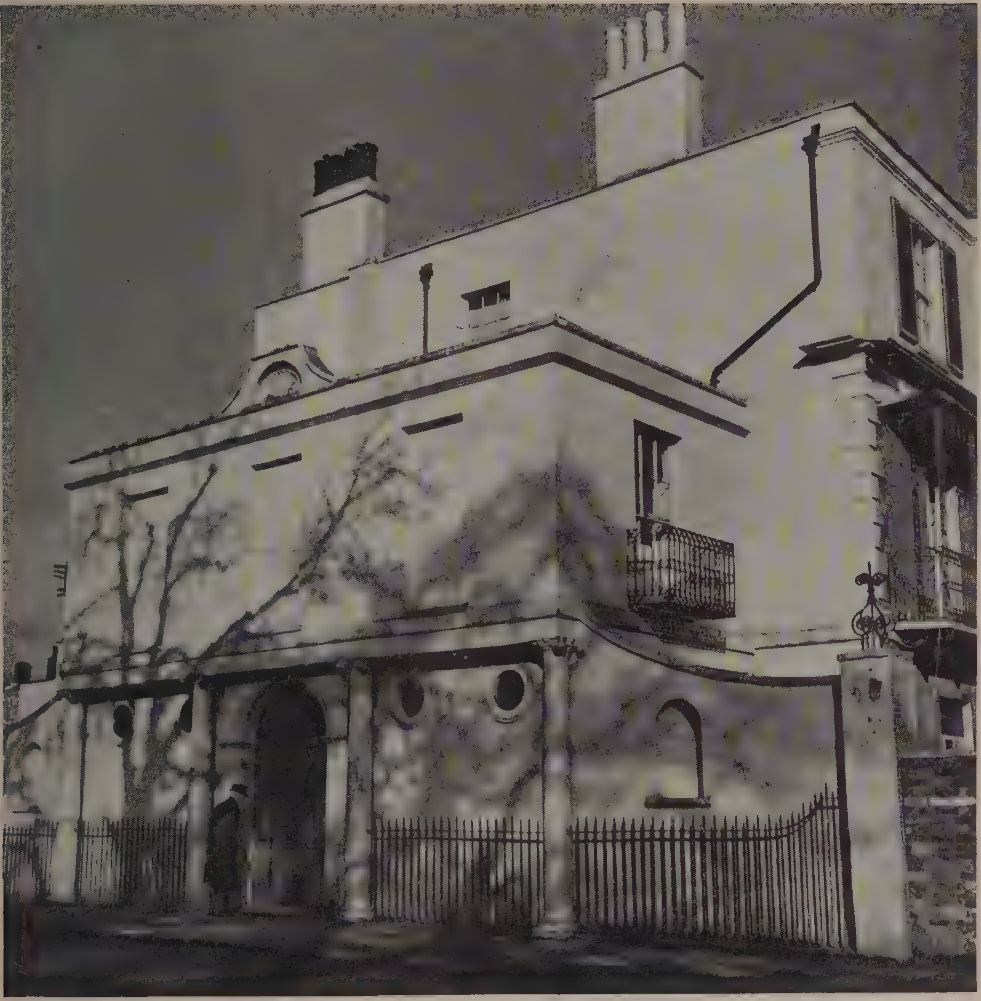
One of the huge terraces built towards the end of Cheltenham's boom period. Its air of solid dignity is in perfect contrast to the dancing shadows thrown across its façade by the trees which line St George's Road



A characteristic pair of small Regency villas in the Montpellier district of Cheltenham. The faintly Gothic detail of the feature in the centre of the parapet is a sign of things to come

faults, and even in the hands of its greatest exponents it can never claim to be great architecture, for it depends for its effects upon more elusive qualities than grandeur of scale or faultless proportion. The contrast of foliage against gleaming stucco, the luminosity of light-toned paint, the delicate tracery of shadows thrown by the decorative ironwork of balcony and trellis—these are the elements of Regency architecture which delight the eye and create so harmonious a background for the urban scene.

This architectural harmony is due to three factors—first, the almost universal use of stone or stucco as a facing material; secondly, the discipline of form imposed by the contemporary rules of style which, with certain regional variations, were unquestioningly followed by architect and builder alike; and thirdly, the fact that Cheltenham, like all resorts, depended upon well laid-out amenities to attract visitors. The results here of

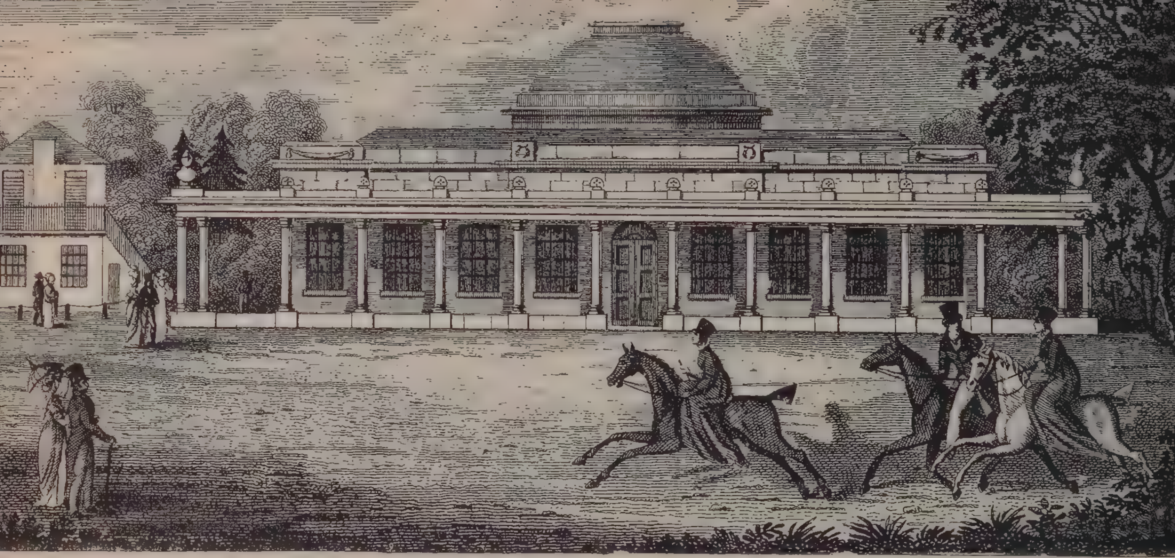


This porch to a house in Montpellier Drive is almost certainly the work of Papworth. Its perfect balance and excellent detail render it, despite its insignificant size, one of the most distinguished pieces of design in Cheltenham

this unity of material, design and purpose are completely successful. The striving for stylistic individualism which was to disintegrate urban design did not appear in any strength until half-way through the 19th century, and by then, happily, Cheltenham's building boom was over.

This boom was the climax of a movement which had begun over a century before. As early as 1740 Cheltenham possessed a saline well and an avenue (laid out by a Captain Skillicorne) for the morning parade of visitors. But it was the visit in 1788 of George III which gave the real impetus to the town's development. Following the royal example, fashionable crowds flocked to Cheltenham, which soon began, so it was said, "to rival Bath in its indolence and folly". The old wells in the centre of the town showed signs of being unable to cope with the demand and speculators began to get busy.

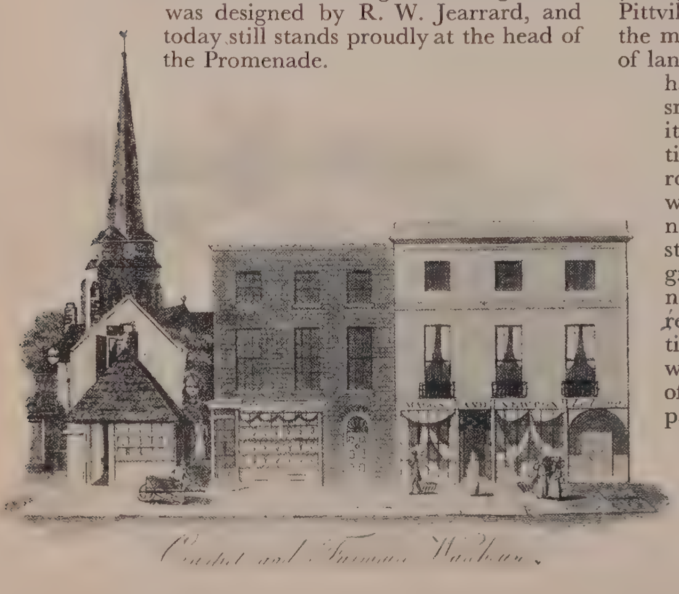
In 1801 Henry Thomson bought 400 acres



Prints from the Cheltenham Art Gallery and Museum

The Montpellier Rotunda, built in 1825, was Papworth's first important commission in Cheltenham. The colonnade in front is a relic of the earlier building and was designed by Forbes. Below is a view taken from a contemporary trade card of the Parish Church seen from the High Street

of land where, to the south of the town, a spring had been located. Here on the Montpellier and Lansdown estates he built a pump-room, a pleasure-garden and a small museum. This new healing centre was some way from the High Street, and in an effort to intercept the questing dyspeptics a rival spa was established in 1818 half-way along the route. This, the Sherborne Spa, was financially a failure, and the pump-room was replaced twenty years later by the Queen's Hotel—a magnificent cliff of white stucco, Corinthian columns and gilt lettering which was designed by R. W. Jearrard, and today still stands proudly at the head of the Promenade.



Montpellier Spa meanwhile prospered, and Thomson's son Pearson launched into bolder schemes of development, employing as architectural adviser a London man called J. B. Papworth. The pump-room was rebuilt, squares and terraces were laid out, churches and parks provided. As a result of this extravagance Pearson Thomson got into financial difficulties and had to emigrate to Australia.

Until 1824 the development of the town had been confined almost entirely to the south side of the High Street. But in this year Joseph Pitt announced the project of Pittville Spa, which was to be laid out on the most ambitious lines on a hundred acres of land to the north of the town. A spring had been discovered on the crest of a small hill at the far end of the site, and it was here that Mr Pitt laid the foundation stone of his new £60,000 pump-room. The architect for this building was a local man, J. Forbes, and it is not his most successful work. It is a stilted, high-shouldered and rather graceless building whose appearance has not been improved by the removal in recent years of the statues which at one time crowned the parapets of the side wings. Forbes in fact was a designer of only mediocre talent and his work, particularly in its detail, is often a curious mixture of provincialism and pedantry.

Pittville was another financial failure. Speculators held back, and though Pitt himself courageously proceeded until his own money was exhausted, the scheme was never completed.

By 1840 the fortunes of Cheltenham were on the decline. Improved travelling facilities led to the increasing popularity of Continental spas, and Cheltenham itself was swept bare of fashionable pleasures by the reforming energies of its leading churchman, Dean Close.

Such in brief is the history of Cheltenham's boom period, but it would be incomplete without some account of the life and work of J. B. Papworth, to whose influence the architectural distinction of the town is so largely due.

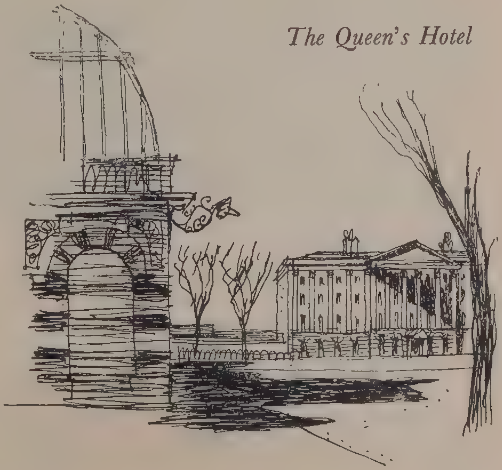
John Buonarotti Papworth—he was induced to assume the second name in 1815 by some admiring friends—was born in 1775, the son of a well-known master plasterer. As a youth he studied drawing, perspective and sculpture, and later, upon the recommendation of Sir William Chambers, to whom some of his early drawings had been shown, he entered the office of an architect called John Plan. He remained here for some time before deciding to widen his experience by working in turn for a builder called Wapshott, and an interior decorator in Great Marlborough Street.

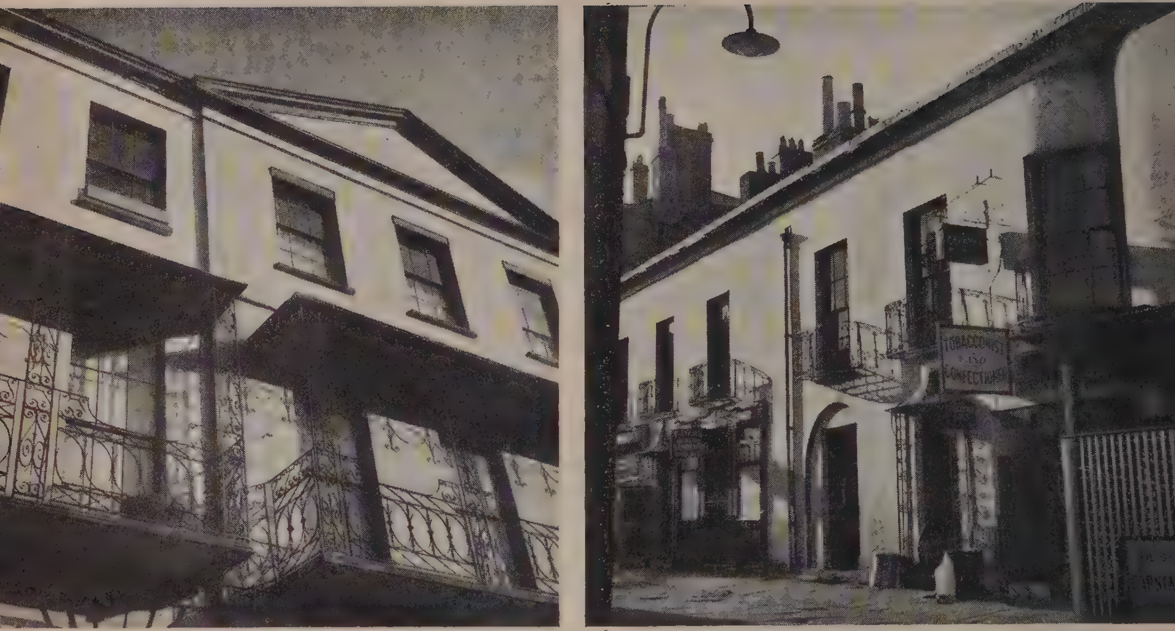
Upon the basis of this varied and practical training was founded a highly successful career. His practice consisted mostly of domestic alterations (or as his biographer prefers it, "the embellishment of the residences of the nobility and gentry"), but besides the normal work of an architect he designed an extraordinary variety of objects—carpets, chandeliers, garden seats, even pocket-handkerchiefs. He designed furniture for Brooks's Club and a gold-fitted dressing-case for the spendthrift dandy, Ball Hughes. He designed one of the earliest gin palaces, a headpiece for the newspaper the *Nation*, and a medal for the Royal Humane Society. He designed the decorations for the first steamboat to ply upon the Thames, called *The Engineer*, including a figurehead depicting Science inscribing a problem of Euclid upon a tablet.

As a sculptor and water-colour painter he exhibited frequently at the Royal Academy and he was a prolific journalist, publishing treatises on such varied subjects as dry rot, ornamental gardening and industrial design. He was appointed the first director of the Government Art School at Somerset House, and in company with such distinguished architects as Barry, Burton and Hardwick, he was one of the founders of what is now the Royal Institute of British Architects.

Nor were his activities confined to England. He designed for the King of Würtemberg a palace and park "in the English style" (a scheme which so delighted Lord Elgin that he asked to borrow the drawings for a time), a chandelier for the Shah of Persia and some steam-yacht decorations for the Pasha of Egypt. He designed a façade for a building in Rouen, an interior for a New York bank, and the lay-out, never executed, for a new town on the banks of the Ohio which was to be called 'Hygeia'.

His work at Cheltenham was carried out at the height of his career. In 1825 he designed for Pearson Thomson the new Montpellier pump-room known as the Rotunda. It is a shapely building, well suited to its purpose, gay without being too exuberant, restrained without being too severe. Despite its low silhouette it dominates the district with the confident swell of its copper-sheathed dome, and is perhaps the most imaginatively-designed building in the town. Today it looks shabby and weather-beaten, but a century ago it was the scene of many dances, parties and musical evenings when, relates a contemporary diarist, it was affecting to watch the assembled company " with the flush of partial or returning health brightening every countenance". The success of this building led to other commissions from the same client—Lansdown Terrace, with its impressive, elaborately modelled façade; Suffolk Square; a couple of churches; and then, adjoining the Rotunda, the charming little row of shops, Montpellier


The Queen's Hotel



(Left) *A fine example in Royal Crescent of the decorative ironwork for which Cheltenham is famous.* (Right) *Curious window treatment to be seen at the back of the Montpellier Rotunda*

Walk, with its row of caryatides. This, with a few houses, constitutes the sum of work in Cheltenham known to be by Papworth's hand, but it seems likely that he provided drawings for many other buildings in the town. The original lay-out of the Pittville estate, for instance, was almost surely planned by a more skilful designer than Forbes. The imaginative counterplay of vistas, the subtle conflict of romantic informality and classic symmetry are evidence of a sophistication which in Cheltenham is only found in the work of Papworth.

Despite his versatility and industry (his office hours were 9 to 7), Papworth never reached the greatest heights of his profession. He was, for example, consistently unlucky in competitions and he was never elected to the Royal Academy. But although he was not a designer of the first rank, the results of his work at Cheltenham are a memorial of which any architect could feel proud.

It is customary to associate towns with the names of prominent residents or 'characters'. Of such persons Cheltenham has naturally had its share, among them George III and the Duke of Wellington, Mrs Siddons and Dr Jenner, Thackeray, Byron, Tennyson and Fred Archer. As for 'characters' there have been John Millbank the muffin-man who was only three feet eight inches high, and Sally Saunders the postmistress of 1800 who would keep letters five or six days, saying—and who will blame her?—that she had something better to do than to take a single letter to the bottom of High Street.

But though the great personality and the eccentric rarely make much mark upon a town, their names are usually remembered while those of the man who laid out its streets and designed its famous buildings are either forgotten or unknown. Everyone has heard of John Nash of London and of the Wood family of Bath; but who remembers Fowler of Exeter, Foulston of Plymouth or Thompson of Glasgow? As for those who today wander in admiration through the stately streets of Regency Cheltenham, they should remember with respect the names of Skillicorne and Pitt, of Thomson, Jearrard and Forbes, but, above all, of John Buonarotti Papworth.

Spring Comes to England

by LAURIE LEE

Lost in a dead world of deserted woods, of ice-bound lakes and hedgerows crumbling with last year's nests, we have waited a long time for this March bird. Now he has come, joyful and sudden as a new moon, and his first loose, lusty notes prise open the tight leaves around him, and urge Spring onwards with incessant shouting.

Photographs by H. Gohler

Winter had been a cold blue wilderness of starvation. Flowers and grass seemed locked for ever in the earth, clamped down by iron frost; and trees, caught upon reefs of ice, stood with wrecked ribs in awful silence submerged by seas of lifeless air. Only the bomber ploughed that frozen sky, a sound which made the long night seem eternal.

Yet all the time Spring was our distant hope, a toy we longed for, a crystal ball in which we saw, through frosted glass, her colours petrified.

But, now, the glass is broken; now in one startling moment, all Spring is open to us. The painted landscape breathes, is warm again, is real with scent and sound. See how the meadows move, humming sweet airs, and how the ringing woods, the lakes and gardens, jingle their golden skirts with daffodils!

These are the tricks, the spells, the evocations, which serve once more for our enchantment. And what a revelry they set in motion, what a clucking of hen-birds, what a bunting of thirsty mouths, what shaking of lambs' tails and dancing of woolly fleeces. Who can suppress the heart on such a day, or keep the limbs from wanting to leap and fly?

Clothed in this gentle world, brave with new warmth, now we may laugh at death and all his fears. For sunlight breaks from nest and bud and womb sucking the storms out of the clearing sky, and twigs reach out to catch the feet of birds, and floating blossoms drop their parachutes. This is our time, our morning—this is Spring.

Wyn Morris

The greyness of winter in the upper Vale

The Vale of Neath

by B. L. COOMBES

The author of this article was for many years engaged in mining coal from collieries neighbouring the Vale of Neath. He has since made a name for himself as a particularly sensitive writer on miners' lives and problems. Here he describes a corner of Wales that has been his background during the whole of his working life

The sound of a train made George Borrow stretch his long legs in a hurry through the Vale of Neath. He noted the beauty of the mountains, but as a result of his aversion to this new form of transport he missed many places and people worth his interest.

Others before him had objected to the arrival of the railway; a petition had been signed opposing its building because the cows would refuse to give milk, the fowls would not lay, the birds would stop singing, and the trees would die, if this smoky monster invaded the valley—and it was claimed that the canal would carry all the coal that could be produced in the area. Now, the barges are rotting into the mud of the disused canal and the towpath is of use only to lovers.

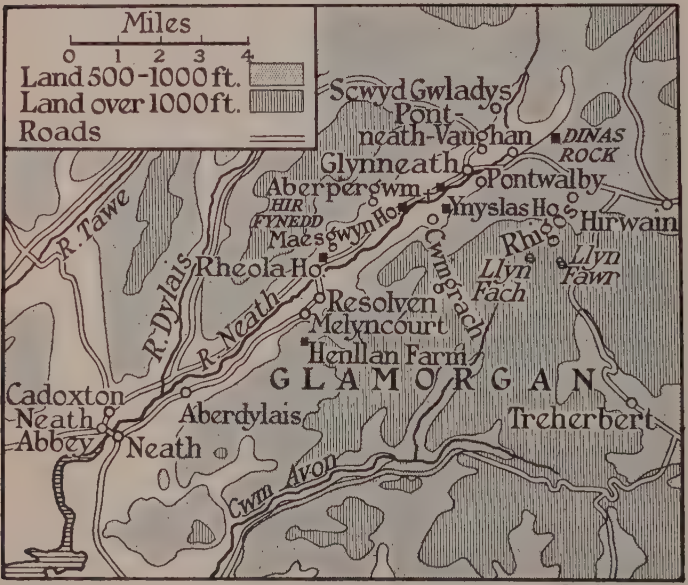
I came in twenty years ago along the railway that Borrow despised and was glad of its speed to carry me past the flat monotony of Hirwain. A spring day was fading when we rattled over that fine stone viaduct at Pontwalby and immediately after I was delighted by the craftmanship of those railway builders, for they had merged their walling with the work of nature until it was not easy to tell which was the wall and which the rock. It ran up high and steep above the line on the left side. After a while I looked to the other

side and was entranced by a sight that has held me to the region ever since.

The valley was wide below us, sided by gently sloping mountains on which the trees swayed like a great fan. The last drops of a rain shower still lingered on the trees and rainbow colours glistened in them as the earliest lights blinked out from the village of Glynneath below. After the drabness of the other valleys this seemed the arrival in Fairyland.

The melting of the ice age washed out this valley very deeply and must have taken the coal seams away to the sea, for no coal is found in the lower section. Yet on both sides, on the higher slopes, seams from eighteen inches to eighteen feet thick crop out to daylight. Anthracite, steam and house coal are there but none is of the highest quality. In the past most of the mining efforts were on a small scale and were abandoned when any difficulty was apparent. Nature has hurried to close the scars and the Forestry Commission is keeping the slopes well covered. Probably about five thousand tons of coal a day are now sent from this valley but the workings are on the higher ground. The mineral wealth of the area is shown by the succession of derelict brickworks, iron foundries and tin works near most of the villages. Above Glynneath is a crest named by the ancient Welsh, *Talcen-y-byd*, or the Forehead of the World. In this valley the two languages, Welsh and English, are used and the people mingle in perfect harmony. Public notices are often in both languages and each people respects the other's culture and encourages it. This Forehead of the World is a crest claimed to be the highest in Glamorgan. Those who seek a wonderful mountain view can ease the climb by travelling along the Rhigos road to the Pandy colliery. The crest is straight above and is not too difficult. On one of my climbs I watched colliers at the Pandy colliery sitting in the sunshine studying their pay dockets while mountain sheep grazed near and seagulls screamed just overhead—possibly in derision of those mortals who have to go under the earth to work. I remember that afternoon because next day there was an explosion and sixteen of those miners were killed.

Like a great pimple on this Forehead is a cairn, built roughly of stone. I have heard it said that this marks the highest point, also that a Welsh prince was killed here after escaping from the battlefield near Hirwain. Others insist that the miners built it on the spot where the body of tiny Willie Llewellyn was found months after he had wandered from his home. It is a grim and lonely place with black cliffs slanting below it to the waters of a mountain lake—Llyn Fach. The old legends mention a green lady coming out of this lake, and it is certainly a considerable body of water to be held high above the valley. Farther across and quite near the mountain road to Treherbert is another mountain lake—Llyn Fawr—which has now been used as a reservoir. In the work of adapting this lake the excavators found many traces of the bronze age.



Stanford, London

Had Borrow turned left at Glynneath and walked along that road for a quarter of an hour he would have reached Pontneath-Vaughan. Here Thomas Stephens the historian, who wrote *Literature of the Kymry*, was born in 1821. This village, a solace for weary minds, was included with the Vale of Neath as part of a suggested National Park of Wales. One of the two inns, the Angel, is of considerable age and there is a tale of a weary Lord Mayor of London who passed that way about 1800

Hulton Press

The author coming down the lower part of Hir Fynedd into the village of Glynneath. Facing him is the crest of Talcen-y-byd

Wyn Morris

Placed in an attractive park which has playgrounds for children and adults, the Glynneath Institute is an example of good planning. It was built by the Welfare Commission from the penny per ton levy on coal raised and maintained by weekly deductions from the miners' wages

and failed to get refreshment, or even respect, from the dominant lady who controlled the inn and its surroundings. The peace of that period still broods over this little village and a short distance away is the Dinas Rock, a steep grey cliff under which King Arthur and his Knights are said to have found one of their many resting places. Extensive caves have been found and explored within a short distance of this Rock, but they have not yet been made accessible to the ordinary visitor. The upper parts of the river—Nedd or Neath—falls over its rocky bed in a succession of small falls. I found it a fascinating journey up alongside the river amongst the crowded trees. Higher again I saw a sort of horseshoe fall which, although not deep, had an imposing formation. Higher again we were impressed by Scwyd Gwladys, where the river comes over a considerable fall at a sharp angle. The scenery around is superb, and I have heard of a greater fall higher up but have not yet seen it.

An old powder works is hidden in this area and I can remember the echoing sounds of the pairs of horses that took the powder through the vale in the night, as daylight travelling was counted risky. Until quite recent years we used to watch the sleepy driver being taken home by his horses through the dawn of another day. The works have been idle for some years but the influence of the good employers still linger in that village.

Glynneath is much brighter than most mining villages and the Miners' Welfare have laid out a fine park and built an attractive Institute in it—altogether an excellent showing of what can be done.

Half a mile down the valley is Aberpergwm House and Church. Early beginnings are claimed for this church but repairs and alterations have given it a confusing appearance. It has a tablet in memory of David Nicholas, said to be the last family Bard in

Wyn Morris

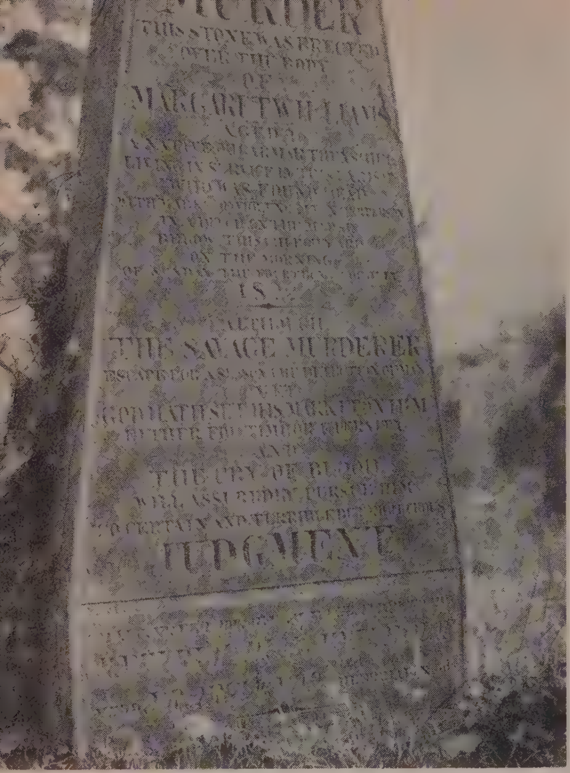
Looking across the width of the valley: a view of the end of the Vale with the entrance to Pont-neath-Vaughan in the distance. The new motor road can be seen winding around the lower slope of the mountain

Wales. A short time ago death robbed this church of a very well-known vicar who had travelled widely as a young man and become a friend of the Kaiser Wilhelm. He did not allow wars to end his friendship and kept up his visits and correspondence to the end. As he kept the local papers supplied with all details, this friendship kept the letter page full of sarcastic comments on friendship with the enemies of our country.

Facing Aberpergwm across the width of the valley is a villa that should be sacred to all Welsh people. A hundred years ago Jane Williams lived at this Ynyslas House and the atmosphere of Welsh legend and folk song was fostered there. She was probably the most cultured Welshwoman of her time and she encouraged the old harpists and story weavers to visit her so that she could record their songs and tales. Through her care many lovely tunes have been saved for our generation. She devoted her wealth and her life to the collection of Welsh music and fairy lore.

An offshoot of the Vale tries to hide itself in the mountain of Rossoulin and is called Cwmgrach—the Valley of the Witches. It is made dreary by the continual dusting from colliery screens. Here the Miners' Welfare made an attractive park on some waste ground and as a contrast the colliery company have created a great rubbish tip on a green meadow opposite. Back along the main road and nearer to Neath this tip also shadows Maesgwyn House. Southey was entranced by this house and its surroundings when he passed it in 1802 and he would have rented it; but when he was about to sign the lease a trivial argument with the landlord brought on a dispute and Southey never achieved his wish. Had he done so the valley would probably not have been so little visited as it is.

Along the main road towards Resolven is



Wyn Morris

A permanent record of a mystery of the long ago. This murder stone was placed alongside the pathway through Cadoxton churchyard, near Neath

a small Lodge that guarded the way when stage coaches drove from the inn that has now been enlarged into Rheola House. There is some fine carving on the porch of this lodge.

A stretch of tree-bordered road sweeps past the lake and on to Resolven. This large mining village is grey and badly planned, altogether a dreary situation. The road branches and the Resolven side goes along to Melyncourt. Above it is an ancient stone circle near the Henllan Farm, and farther down where the mountain stream drops sheer into a deep gorge is an ancient chapel and burial-place secluded on the mountain. This waterfall is a most impressive one and a watcher has to bend his head backwards when viewing it from the bottom. The surroundings are very rugged and a good path can be followed for the short distance to the road. Traces of an old foundry and also a mill are visible alongside this stream and though all are so close to the road no one seems to realize they are there.

Lower again is Aberdylais, a village to which abundance of waterways gives a Venetian atmosphere. This place claims more bridges than any similar area in the country. Whichever way the eye is turned, bridges come into view. The tide comes up to this section and the end of the Vale can be seen.

Cadoxton is quite near Neath and has an old inn—the Green Dragon—which is probably the oldest in the Vale. It is still well preserved and seems likely to look on many more changes in the life of the people. The church, close by, has kept it company through the ages; there is evidence that it stands on an even older foundation. In the churchyard is a murder stone. It was set and inscribed after the murder of Margaret Williams in the marshes nearby. The inscription is long, but despite the hundred and twenty years that have passed I have not heard that it brought any capture of the wanted man. There is an occasional alarm that a ghost has been seen in the vicinity, but it has not been confirmed. I do, however, know an old collier who wandered into this churchyard when staggering home drunk. He slept for a while, then woke and continued his journey. Instead of replacing his hat he had, in the darkness, caught hold of a wreath and was wearing it on his head when accosted by a scared friend.

It is a strange reflection that the prosperity of industry is the cause of almost all the mansions in the valley being deserted. Cadoxton Lodge is one of several from which the owners have gone. It was the home of the Coombe-Tennants who were supposed to have direct descent from Cromwell. To this house in 1890 came the explorer, Stanley, of the immortal phrase: "Dr. Livingstone, I presume?" He married the daughter of the house, who had some skill as a painter and the Vale of Neath became very dear to both of them. Stanley was attracted by the mountains behind Cadoxton and took many walks along the breast of Hir Fynedd mountain and the old Roman road which overlooks the Vale. What caused the great families to forget the love of their estates and go into the English towns to live? Was it better plumbing; or increased social facilities? Or was it the mushroom-like appearance of refuse tips? My own view is that the arrival of large numbers of industrial workers who gained control of the councils after defeating the older representatives had a great deal to do with it.

Neath is at the head of the Vale and is a clean, thriving town of considerable size. High above it the old Ivy Tower watches out

Wyn Morris

(Above) *The mountain slopes are covered with plantations of fir and oak. The local collieries need a large supply each working day. This load is passing along the main road near Maesgwyn House.* (Below) *The author bringing down a sack of outcrop coal from the mountain*

to sea; across the flat marshes stands the most interesting place of all—the old Neath Abbey. The Neath Antiquarian Society has done a deal of valuable work here. Some sections have been protected and carefully restored. In its day this abbey must have been of immense size, and the grandeur of the religious past overwhelms the visitor as he passes the work of men who have been dead for hundreds of years. It is thought that the foundation was about 1130. There are also some remains of a castle at Neath.

The town itself is a good railway and bus centre, and anyone who starts from there to travel along the fifteen miles of the Vale will find a store of pleasure in visiting an area where wealth is prodigal under the ground and beauty still remains on the surface; where the rivers froth over many falls and where the people of two nationalities mingle happily, share their grievances and their poems, and count themselves as one.

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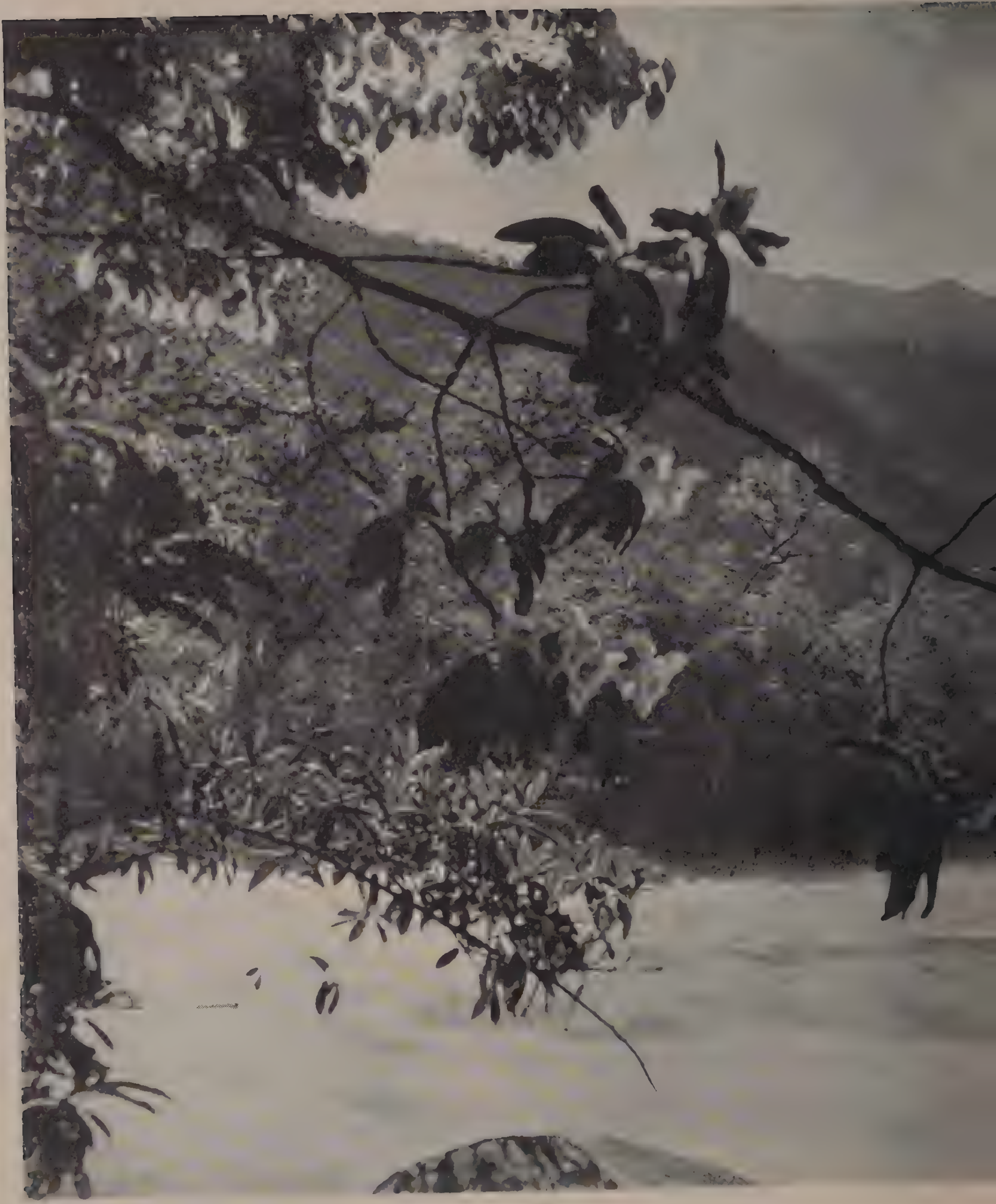
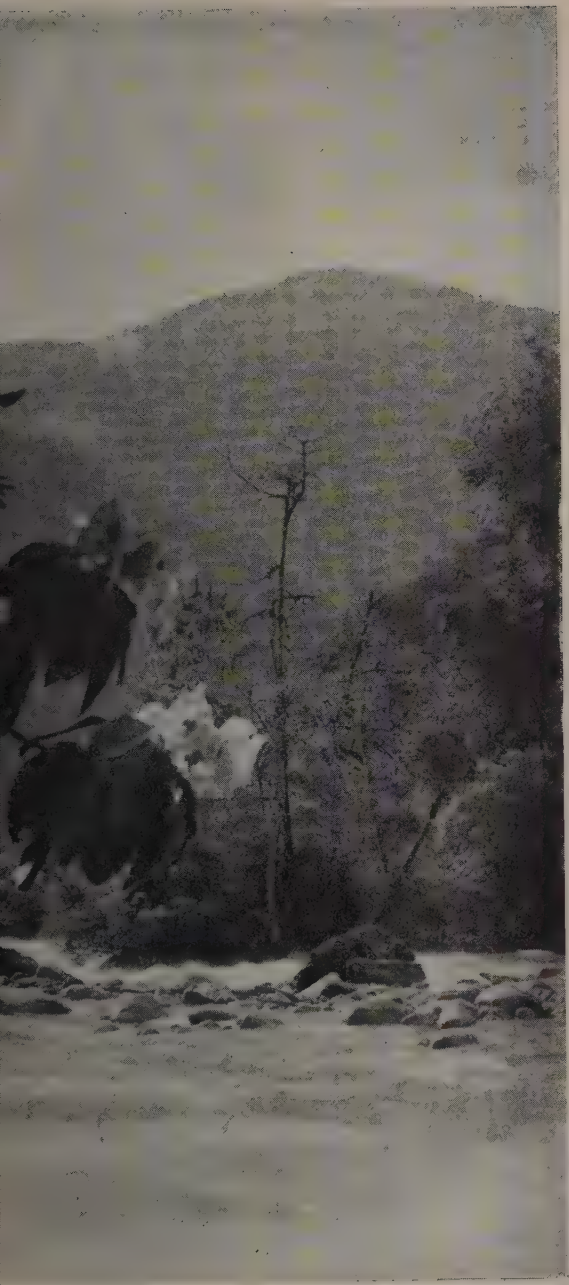


A characteristic valley in the extreme north of Burma's western frontier



F. Kingdon Ward

Burma Front

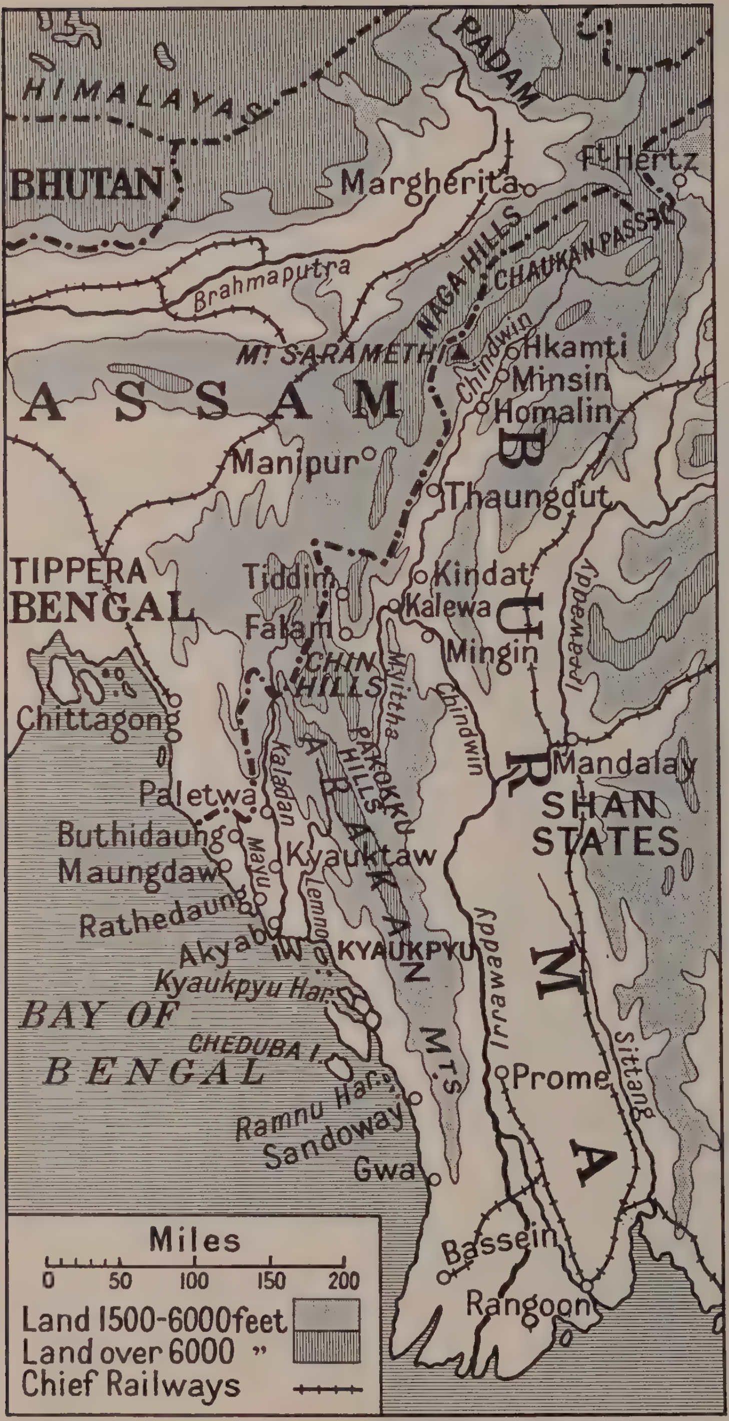
by MAURICE COLLIS

Mr Collis, who was for many years a Civil Administrator in Burma and has written half a dozen illuminating and popular books about it, gives here an impression of the physical background against which recent Allied and Japanese operations have been staged

THE north-west frontier of Burma is a section of the great west wall of the Mongolian lands. This wall of mountains, far more impregnable than the Great Wall of China, the Purple Barrier which guarded the Mongolian heart, starts at the sea in the vicinity of Akyab in Arakan, some 400 miles south-east of Calcutta, and mounts north-eastwards through the Chin Hills and the Naga Hills to a point in the north of Assam where it joins the spurs of the Himalayas. From there, as the Himalaya Mountains, it turns due west and sweeps across Northern India, turning north at Kashmir and becoming in turn the Karakoram, the Hindu Kush, the Pamirs and the T'ien Shan. Eventually it drives eastward round Outer Mongolia and reaches the sea again in the region of Manchuria.

This sequence of mountain ranges is some 6000 miles long. Besides China proper it encloses Burma, Siam, Annam, Tibet and the Mongolias. In the heyday of Chinese power, the Confucian Lord of the World, the Son of Heaven, claimed that he had Heaven's Mandate to civilize all these countries. During two thousand years their kings sent envoys and presents, and listened to his admonitions. But beyond the mountains the Everlasting Lord did not look. Though an infinite benevolence prompted him to hope that the Outer Barbarians also might learn of China and become civilized, he did not send his armies across the barrier to force them.

Therefore, when in 1942, after entering Burma in the winter of 1941 and driving the



Stanford, London

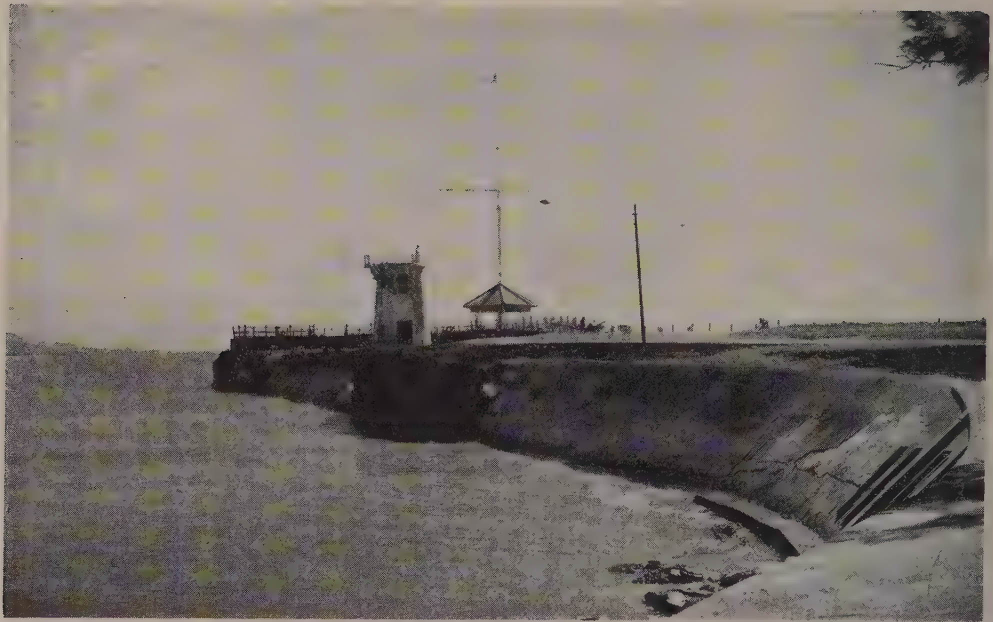
British over the barrier, the Japanese set their camps in its foothills, they had come to the ordained end of the former Celestial Empire. The old kingdom of Burma had been the outermost of the Chinese tributary states on the south-west. For a short time—from 1885—it was in the hands of the Outer Barbarians, but now it was won back for Great Asia, of which they, the Japanese, considered themselves the fated sword-arm, after power to hold it aloft had gone from the Dragon. Their war upon China had been to oblige her people to recognize their leadership and to admit that Heaven's Mandate had been transferred to their Emperor. That war could now be concluded, for China was cut off from Barbarian help and the Barbarians could not hope to recross the barrier.

Such was the Chinese, and such is the Japanese, view of the Indo-Burmese frontier.

I spent some years on the Arakanese sea-board and on many occasions penetrated into the foothills of the frontier, where they come down to the Bay of Bengal. Behind the town of Akyab, the most westerly port taken by the Japanese, there lies a vast rice-plain, watered

(Opposite) *A glimpse of the impassable country in the northern extremities of Burma's western frontier*

F. Kingdon Ward



From Maung H. Phaw

(Above) *Harbour mouth, Akyab, called The Point, looking south-west. Beyond, to the right, begins the fine beach referred to in the text. The main wharf and anchorage is a mile and a half inside.* (Opposite) *Mingin, a township headquarters on the Chindwin River, past which the British army retreated last year on their way up to the pass leading to Manipur*

by three great rivers, the Lemno, the Kaladan and the Mayu, with their innumerable tributaries. It is the wettest rice-plain in the world, the annual rainfall being, on the average, 250 inches, or 25,000 tons of water to the acre. A rain-gauge capable of holding the year's fall without being emptied would have to be twenty-one feet high. During the monsoon between May and October, when the bulk of this great volume of water descends, the rivulets in the hills are torrents and the main rivers are so swollen and weighty that their flow, which from November to May is driven back by the tides to a distance of over sixty miles from their mouths, now overcomes the flood, which cannot advance more than ten miles.

Their mouths are close together and just short of the mountain barrier. If you go north-west from Akyab along the coast you are at first on the edge of the flat land between the Kaladan and the Mayu rivers. Here is an immense stretch of smooth soft sand, fringed with coconut palms and casuarina trees. In the monsoon the waves are heavy on this beach. The spray carried on the south-west wind is a mist that sweeps far inland. No one would choose to walk that shore when the rain is falling—and during the monsoon it may fall for three weeks, night and day, without an instant's pause—but during intervals or in the other season it is a splendid promenade, particularly towards sunset. You should suppose that the scene resembles those sweeping palm-fringed bays of the South Seas with which the moving picture industry has made the public here so well acquainted. Indeed, the South Seas begin at Akyab. It is the first port of the Mongolian world, but also of the Islands. That house you see on posts, with its mat walls and roof of palm-leaf thatch, its verandah, the floor of yielding split bamboos, were you to go south and east for three thousand miles, by Tenasserim, Malaya, Siam, Annam to Canton, or across to Java and the archipelagos,

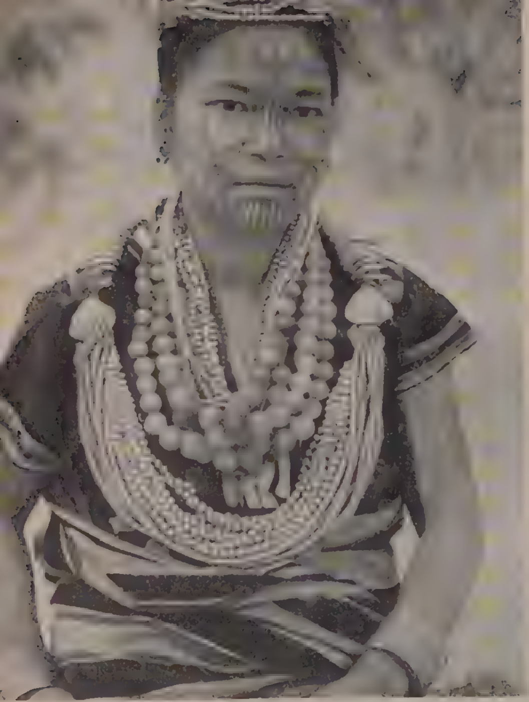
V. C. Scott O'Connor

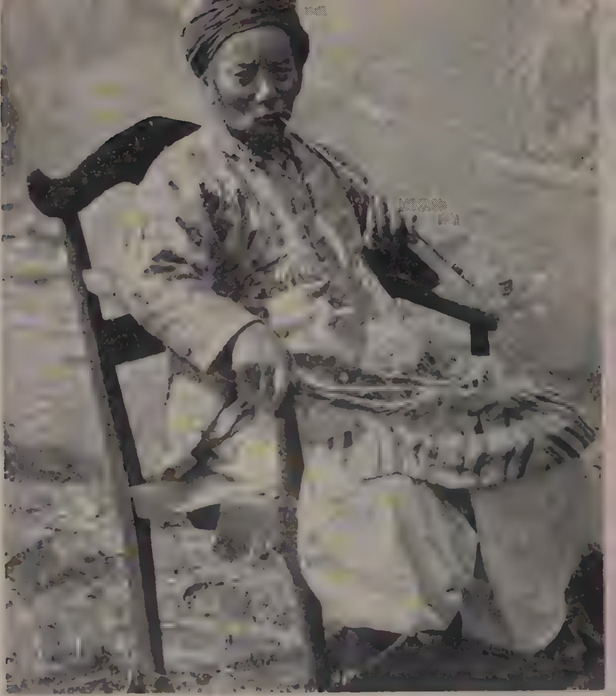
it would be with you all the way, identical in its design, and though the people who lived in it would use differing speech and dress, their features would vary little more than would the character of their house.

When you have come to the end of this beautiful beach, and crossed the wide estuary of the Mayu river, you find the foothills of the great barrier range approaching the sea-shore. In some places they come sharply down, so that between sea and forest-clad mountain there is scarcely a foothold; in others there is a narrow rice plain, as at Maungdaw, near the line of the frontier, and at Chittagong. This mountain mass, through which there is no road or railway, but only tracks, is two hundred miles broad, for it is not till you reach Tippera in Eastern Bengal that the plains open out. The sea-edge of it is populated with Arakanese and Bengalis wherever there is enough room to grow rice.

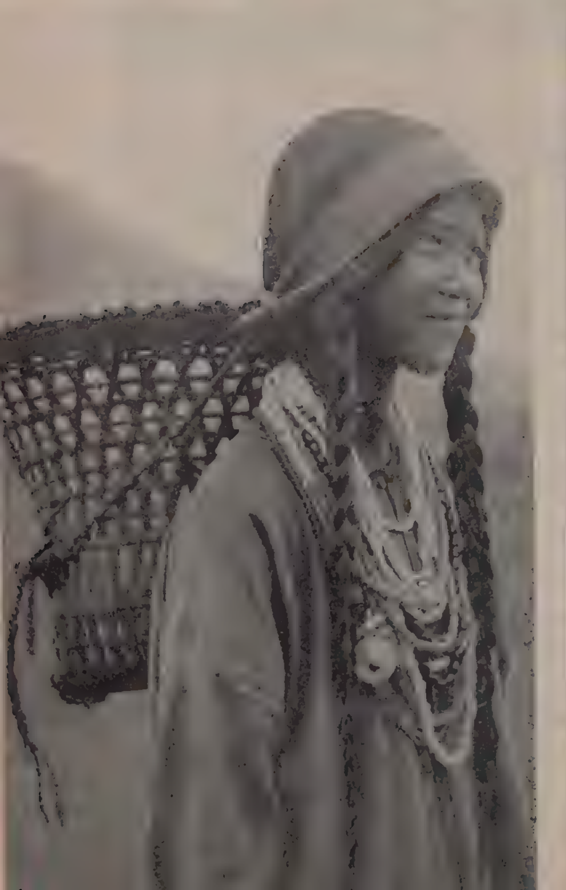
The British Forces striking, as I write, at Akyab managed to force their way through this tangle of hills, creeks and forests. Using boats they skirted the coast to Maungdaw. Thence they crossed a ridge on foot to Buthidaung on the Mayu river. Descending that river in boats, they struck at Rathedaung on its east bank. This village is only thirty miles from Akyab. Akyab would not open the way into Burma, for between Arakan and Burma proper lies another range of high mountains, the Arakan Yoma, across which there are only tracks. But from Akyab it would be possible to advance down the coast plain to Gwa, taking several airfields *en route*. This would entail a march over country intersected by numerous tidal creeks, but it would bring our forces after two hundred miles to a point where the Arakan Yoma dwindles to foothills and where there is a fairly easy passage into Lower Burma. A combined military, naval and air attack on Rangoon, the key of Burma, would then become feasible.

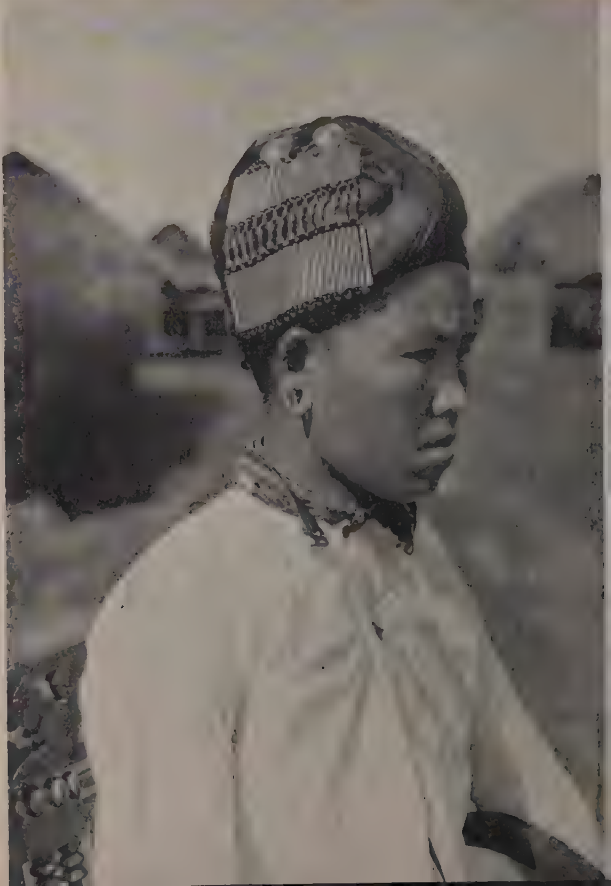
To get an idea of what the Indo-Burma





Captain J. H. Green





Captain J. H. Green

(Above) *View down a valley on the borders of Burma and Tibet.* (Opposite: top left) *Chinbok woman from the Pakokku hills, part of the Chin Hills, 150 miles north of Akyab;* (right) *a chief of the small Shan principality in the northern frontier region;* (bottom left) *a distinctive type of Chin woman from the north;* (right) *a Shan Sawbwa's wife wearing a black silk turban with gold fringes and plaques*

frontier is like, north of Mayu, one should sail up the Kaladan. Starting from Akyab harbour, which is its mouth, one winds for sixty miles through the thickly populated rice-plain, until, after the little town of Kyauktaw, the foothills close in. It becomes utterly lonely, the forest ridges sloping interminably away, a depressing landscape, for it lacks form and meaning. Fifty miles further brings you to Paletwa, headquarters of the Arakan Hill Tracts Administration and the most westerly government post in Burma. I visited it once when Mr Thom, a regular contributor to *The Field*, was in administrative charge. He was the most famous big-game hunter in that part of the world. When I met him, he had been in Paletwa for over fifteen years. It was only a village on the river-bank among the jumbled hills of a vast forest. There was no other Englishman there. The local inhabitants were not Arakanese but half civilized Mongolian tribes-people. It was a notorious place for mosquitoes and, far worse, for sandflies, which can get through mosquito nets.

Beyond Paletwa the Kaladan narrows and becomes shallow. A launch can proceed little further and you must take a dug-out craft and pole slowly on. For a hundred miles the river penetrates into the barrier, now a forest waste of mountains among which Mros, Chins and other Mongolian tribes have stockaded villages and patches of rice on land cleared by burning the jungle. Before the hundred miles is up you have crossed the official boundary between India and Burma, though you would be quite unaware of this, had you no map. There is no change whatever in the appearance of the country; you are surrounded in all directions by rivers and streams wooded to the edge, with no level ground between. You see nothing but the narrow winding valley in which you are. If you disembark and fight your way through

V. C. Scott O'Connor

Junction of the Chindwin and the Myittha at Kalewa, a township headquarters thirty miles north of Mingin. British troops passed through here on their way north. The view is characteristic of the Chindwin, which lies on the Tropic of Cancer. The trees in the foreground are toddy palms, from which a kind of beer is made

the undergrowth to the top of a ridge and then climb a tree, you will only be confronted with another ridge, similar in every respect, behind which there will be another and another, the highest in this region being about 6000 feet.

Further travel along the Kaladan river takes you again into Burma, for the river turns back east, where it divides into two streams, one of which comes down through the Chin Hills, flowing some twenty miles west of Tiddim and Falam, two administrative posts maintained by the Burma Government, and still maintained, for the Japanese have not penetrated into the heart of the barrier. The Chin Hills are, in fact, the only part of administered Burma we retained after the evacuation. Tiddim is 250 miles inland from the Arakanese coast, but the landscape of the great divide has not altered. It remains a land of valleys falling from north to south.

The Chins are a sturdy Mongolian race and provided some of the best recruits for the Burmese regiments. Though primitive and non-Buddhist, their religion being the worship of the genii of their hills and woods, they are more civilized than the tribesmen in the region of Paletwa. Englishmen who have lived there have always liked them. They are famous for their feasts, which for jollity and the amount of rice-beer drunk and the easy familiarity of the women, resemble the pagan festivals of old Europe and the echo of them preserved in such a painting as Rubens's *Kermesse* at the Louvre. Officers who have attended them have told me that, afterwards, the best that London or Paris could do in the way of night entertainment seemed thin stuff, artificial and forced. I imagine that a student of *The Book of Songs* (Shih King) would find among the Chins today much to illustrate the life of ancient peasant China depicted in that book.

The next section of the frontier is the Chindwin valley. The Chindwin is a great river, which falls into the Irrawaddy below Mandalay. It comes down from the northern parts of the mountain mass and, northwards from Kindat, which is 150 miles above its confluence, may be said to be the frontier for another 250 miles. It was up this valley to a point fifty miles north of Kindat that General Alexander's forces retreated. At that point they left the river and crossed the frontier into Manipur by a mule-track which is the only exit out of Upper Burma westwards except a track in the extreme north to which reference will be made later on. It was used by the Burmese in the 18th century when they invaded Manipur.

I have been up and down the Chindwin many times. It also is a depressing river enough on account of the monotony of the landscape, which consists, as on the Kaladan, of tree-clad ridges. At first the riverine villages of bamboo houses standing on high posts are inhabited by Burmese, but sixty miles north of Kindat you reach the Shan state of Thaungdut. The real Shan States are 200 miles to the eastward, but at some early period Shans left the main body and settled here, and also 100 miles further up at Minsin and Hkamti. At these three places on this remote and lonely river you find a little Prince living in a pillared hall, with a throne, ministers, an elephant and standards. On a ridiculously small income—£200 a year would be too large a figure—he keeps up a semblance of royal state, a shadowy memory of the ceremonial of the Court of Mandalay, in its turn a shadow of the Celestial Court. At one time I knew these Princes, for I was stationed at Homalin near Thaungdut. Though rustic, poor, and certainly in no way polished, they were noblemen in the old-fashioned sense. Their manners were perfect, and if your manners were not as good as theirs, they looked down on you. There were ways of conducting yourself which you could learn from consorting with them. It is a long time since I met them, but I can still see clearly their wooden halls. Set by the sombre river, the hill tribes bounding them in, the spirits of the defile peeping at them, they seemed in comparison candles of civilization.

We are nearing the end of our survey of the frontier. Hkamti is 450 miles from Akyab. There is another 200 miles to go before the barrier joins the spurs of the Himalayas. In the mountains between Hkamti and the Indian border there live the Nagas. These people are just emerging from savagery, having been head-hunters until the other day. They belong to a more primitive type than the Chins and Mros of further south. They used to come down once a year to the river and pay their respects to the Government representative. When I saw them, they were naked savages who carried long spears, the shafts of which were decorated with dyed horse-tails. They are now, I understand, our allies and have organized patrols which penetrate into Japanese territory. The Naga Hills have a beauty lacking in the southern part of the range. For one thing, they are much higher, reaching, in the case of Mount Saramethi, to 12,500 feet. For that reason, and because they are outside the tropics, their trees are not a dense creeping growth but the more park-like kind we know, oaks, walnuts, pines and rhododendrons. But readers of this Magazine will have seen photographs of Nagaland in the numbers dated July 1935 and June 1937.

The last lap of the frontier range is inhabited chiefly by Kachins, a superior Mongolian type when civilized, as many of them are. They are not as jolly as the Chins, but they are probably more intelligent. It is in this region that the only other exit from Upper Burma lies. It was used by some parties of British refugees. In the extreme north corner there is a Government station called Fort Hertz, which is connected by a 200-mile mule-track with the Burma railhead. From Fort Hertz you can get over the Chaukan Pass to Margherita, a railhead in Assam. The Pass is 8500 feet. It takes two months at the very least to do the journey from rail to rail.

Newfoundland Loggers in Great Britain

by A. E. TURRAN

To most of us the catch phrase "Empire cooperation in the war effort" conjures up pictures of ocean convoys from Canada or Australia arriving in this country or in the Middle East; of busy workers in the towns of the four great Dominions pouring out first bombs and bullets, then guns, tanks, even aeroplanes for the insatiable Allies, or again perhaps a picture of millions of native peoples throughout Africa, India, the Pacific and West Indian Islands providing the food, textiles, crops and the thousand and one other accessories of total war.

But I wonder how many people who visualize these scenes are aware of an equally important, though far less spectacular, contribution to the war effort which the Empire is performing for us on our very door-step? How many people in this country realize that throughout the length and breadth of England, Scotland and Wales lumbermen, foresters or loggers—call them what you will—from Canada, Australia, New Zealand and Newfoundland have been at work almost since war began to provide our mines with pit props, our railway system with sleepers, our vital communications with telegraph poles, our building industries with boards and timber of all shapes and sizes and our daily press with pulp-wood for newsprint?

The Newfoundland Forestry Unit was formed at the request of the Ministry of Supply in the very early days of the war. The response in Newfoundland was immediate and enthusiastic. Hundreds of men, some of them from the big paper companies which in peace-time provided the newsprint for two of our largest London dailies, others who ran

All photographs by T. S. Hall

Newfoundland Loggers at work in the Highlands of Scotland. The wood, when cut, is stacked according to size and serviceability. Men experienced in judging the use to which felled timber can best be put are seen here marking trunks for further cutting or grading

their own small mills or worked for local operators; others again, to whom logging was a new adventure, volunteered for service overseas, and by February 1940 more than 2000 Newfoundland loggers were getting down to the job in this country.

Logging does not mean just cutting down trees. If it were as simple as that, the experienced Newfoundland contingent would probably already have cleared our countryside of its pine forests. The direction of cutting operations calls for much skill and experience. First a suitable site has to be selected; the trees must be of good quality and of the right age; the forest must be at least moderately accessible to a road and railway; it must not be on too precipitate a hill lest haulage of the cut wood become too costly and protracted. A favourable site, known in logging parlance as a 'good chance', generally means a forest on dry ground with a gentle downhill slope and easy access to a road. A 'bad chance' will be one in hilly, broken (and especially boulder-strewn) country or where the ground is boggy under foot. Sometimes bad chances are inevitable, but whether the choice be good or bad, the timber is got out in the long run.

Once the site is chosen and the timber on it bought or requisitioned, the men set to to build their camp. Camps are generally run up out of ready-made sections to ensure speed in construction. A typical Newfoundland camp housing sixty to eighty men will consist of from six to eight sleeping huts or bunk-houses, a cook-house and dining hall, a combined recreation hut and canteen and the 'fore peak' where the camp foreman and his

clerk and tallymen work and have their living quarters. Some camps are constructed of plain wooden sections, others are built with logs caulked with moss and protected at the base by an outer wall lined with earth. This gives the camp an old-world log-cabin atmosphere but it also provides splendid protection against the wind and cold.

Once the camp is finished the men move in and work in the woods begins in earnest. Suppose for a moment that you drop in for a visit to the new camp to see how the foreman has divided up the duties of his men. Call first at the fore peak and you will be told that the foreman himself is up in the woods supervising the cutting and extraction of the timber. You will probably meet a clerk or scaler marking up the contents, shapes and sizes of the lorry-loads of logs already on their way to the sawmill or the station. In the cook-house the head cook with two or three cookees is preparing the midday meal.

Winter conditions at a Newfoundlanders' camp. The scene gives some idea of the isolated sites in which the men are working. The two bunk-houses in the right foreground are built of logs caulked with moss ; the others are of boards in standard sections

Huge iron pots are steaming over a coal-burning range and you may catch a glimpse of one of the Newfoundlanders' invariable favourites—a dish of pork and pease-pudding or of salt fish and brewis (a hard biscuit which is soaked and boiled). At this hour the camp is otherwise deserted and you must go up to the woods to see how the men from Newfoundland set about the clearing of our forests.

The first job on a new site is the cutting of a clearing and the construction of a make-shift road to bring the felled timber out of the woods. Once this road is built, cutting operations begin. The first man on the job is the feller. His task is to cut down the tree, to lop the branches and to stack the wood either in the whole trunk or in saw-logs according to what type of timber is required. Actually, as I learnt to my surprise, the felling of the tree is the easiest part of all, at least with soft woods such as the Scotch firs on which the Newfoundlanders are working. You just choose the direction in which you want your tree to fall, gauge the wind and slope of tree and ground if any, cut a 'V' with an axe on the under side of the trunk and then carry on with a hand saw until the tree begins to totter. The only danger is that the butt might jump back and crush you if you linger too long on the job. Next a few sharp blows with the axe disposes of the unwanted branches which are later stacked as brush and if possible burnt. Then the wood is piled according to size and shape.

Now comes the more difficult part of the operation—the extraction of the timber. For this, tractors and, if the ground is very hilly and boggy, horses or chutes are used. Generally however the timber is placed on a heavy home-made sled or on a pole wagon, an elongated cart with four wheels which earns its name from the long pole which connects the two pairs of wheels, thus permitting the wagon to be adjusted to suit the length of the timber which is being hauled out of the woods. The pole wagon, however, is a more fragile vehicle than the sled, and in bad country the latter has pride of place. The tractor driver's job is perhaps the most arduous and difficult of all. In the Scottish Highlands, where the Newfoundland Forestry Unit is now concentrated, the forest areas are nearly always hilly, sometimes precipitous, and for nine months out of twelve the ground is boggy. To see these tractors with their heavy loads in tow, lurching and grinding over stony humps, down steep declines and through marshy quagmires, reminds one of a disabled ship lying in the trough of an Atlantic gale. Not unnaturally tractors often turn over or break down under the constant strain, but if the tractor fails, there is always a

A busman's holiday for the loggers: sawing logs for the barrel stoves in the recreation hut and dining-hall. The men on the right are 'Commandos' in training to whom the Newfoundlanders can still teach some endurance tricks. The variety of costume shows how the men equip themselves for the climate and for their heavy work

sturdy horse to take on the job, and should even the horse quail before the slope, there remains as a last resort the construction of a chute to slide the timber down the mountainside to some more accessible spot.

Once the arduous job of bringing a load of timber down to the roadside has been completed, the logs are loaded onto a lorry and, if there is a saw-mill in the neighbourhood, carried there for further treatment.

The saw-mill with its shrieking saws, its ever-turning belts and pulleys and its mounting piles of sawdust and slab wood, is always a fascinating spot. To work in one calls for quick judgment and constant wariness, for a hand or arm can be lost here as rapidly as a good log can be wasted by faulty judgment. While poles and pitwood will already have been selected and classified in the woods, the food of the saw-mill consists strictly of 'saw-logs', *i.e.* railway sleepers, mining timber and building timber, and it is the task of the sawyer, once the log has come up onto the rolling belt, to decide by its size and shape how it can best be sawed. Then when the timber has been cut and divided into its varying categories, it is loaded once more onto lorries and takes its last journey, so far as the loggers are concerned, to the nearest railway siding or quayside to begin a new life in the mines, in army huts, in houses, in canteens, on the roadside or on the railway track.

Such in brief is the daily round of duties which the Newfoundlanders and their fellow loggers are carrying out all over the country.

It is a daily round of inestimable value to our war effort.

Now let me try to explain a little more personally how these men from Newfoundland live, what their camp conditions are like and what they do with their spare moments.

In summer, life in camp begins at 6.30, in winter at daybreak. A meal of bacon, sausages and bread, washed down by a pint mug of strong tea, and the Newfoundlander is off to the woods. Against the almost invariably boggy ground, he wears a pair of logans, stout boots with thick rubber soles and soft leather uppers—just about the most warm and comfortable form of boots one could ever wish to walk in. Above this he will wear his oldest, toughest breeches or trousers and an old shirt or sweater: it is not a paying game to waste new clothes which may tear at any moment on protruding twigs and branches. In cold weather he puts on a light windbreaker, a characteristic Newfoundland garment in wool of drab blue-and-brown checks.

A good logger will be on the job solidly from daybreak to 5 P.M. with a pause for lunch at midday. At five o'clock comes the evening meal and then, so long as daylight holds, the majority of the men who have the incentive of working at piece rates, will return to the woods. Sunday, except when there is a rush job to be completed, is a day of rest, and almost invariably the men go off to church and to pass the time of day in the villages or in nearby farms and houses where they have made friends. It is no secret to say that Scotland has fallen before the charms of the Newfoundlanders and already over a hundred of the local beauties have decided to swell the population of the Island when the war is over. In fact, when I was last passing through Inverness, five Newfoundland-Scottish marriages were taking place on the same day. Sundays and periods of local leave are not, however, always unmixed blessings, for by the nature of their work the Newfoundlanders have to live near the forests and sometimes their camp sites are situated in desperately lonely spots, miles from the nearest town or village. It is here that the Government have provided them with canteens, welfare officers and sufficient transport to enable them to enjoy a regular week-end trip to the nearest town, to attend church services and to amuse themselves generally.

Generally speaking this isolation presents no serious problem in the summer months when men are working from dawn to dusk, but in the winter when work necessarily stops at an early hour, the men can never have too many books, magazines or games, and the value of these is not to be measured in terms of money.

No people, the Scots least of all, like to see their mountain-sides denuded of fine trees. But they realize that the axe must swing ruthlessly until peace and the gentler art of afforestation return to their own. Meanwhile the Newfoundland logger, in his quiet and unpretentious way, has demonstrated the manner in which the professional woodsmen of his own country set about their job.

The Battle of Waterloo Bridge

by ALFRED BEST

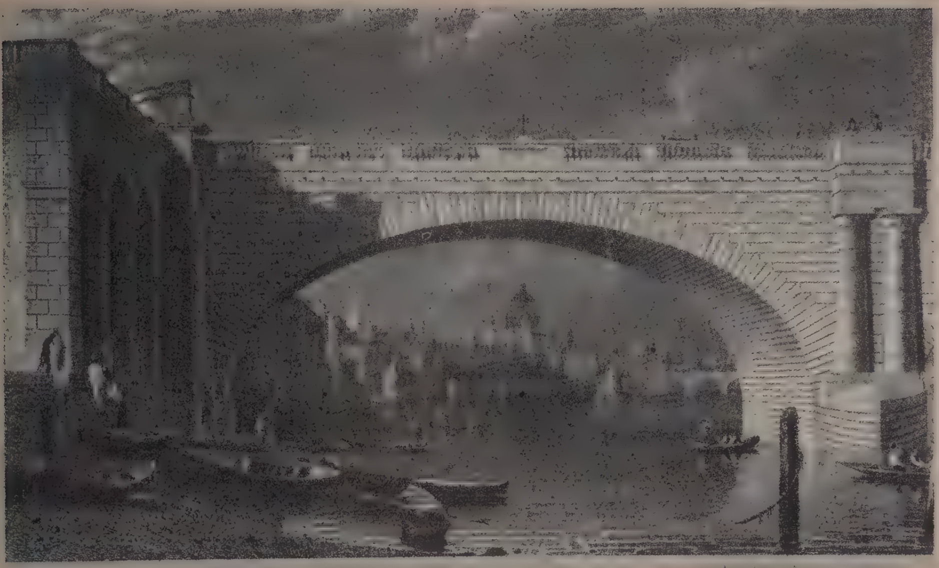
From 1923, when the foundations of the old Bridge gave way, until this year, which sees the completion of the new structure, Waterloo Bridge has been 'news'. The complicated story of the two bridges is told here by a senior member of the staff of Messrs Rendel, Palmer & Tritton, the 'Appointed Engineers' to the London County Council for the work of reconstruction

THE old Waterloo Bridge, for all its dignity and classic beauty, was not an 'ancient monument' comparable, for example, with the Tower of London. It was not even of the Renaissance, but of the Regency period, contemporary not with St Paul's Cathedral but with Carlton House and the Brighton Pavilion, both built for the Prince Regent. Nor, despite its name and that of Wellington Street its northern approach, had it much to do with the battle won by the Iron Duke.

It lies in the very heart of London and crosses the river half-way between Westminster and Blackfriars bridges, the central bridge of thirteen (nine for roads and four for railways) from the Chelsea suspension bridge to the Tower Bridge. Before reconstruction it was the oldest of them all.

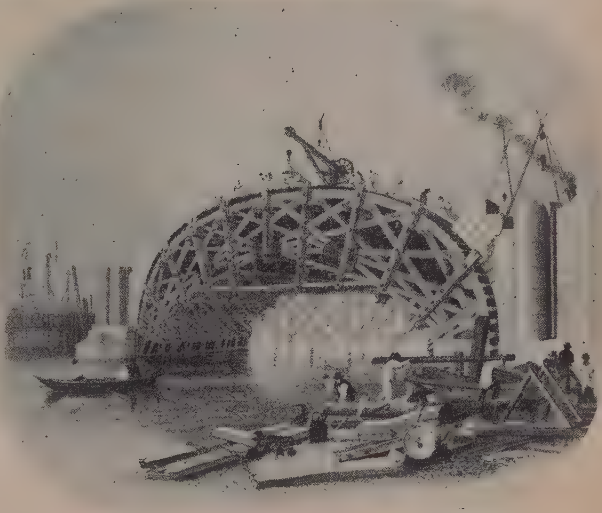
With its northern half in the county of Middlesex, the southern half was in Surrey before the absorption of the Metropolitan parts of these counties and of Kent into the administrative county of London, created by the Local Government Act of 1888.

The Thames had never been spanned at this point when the 19th century dawned. Indeed there was then no crossing in London but the old London Bridge and the first Westminster Bridge. Whoever conceived the idea of a river crossing here, a commercial company was formed for the purpose of carrying it into effect. This was the Strand Bridge Company and the bridge was to be called the Strand Bridge. Authorized by Act of Parliament in 1809 and begun in 1811, it was nearing completion when the great battle was fought in Flanders and by renaming it 'Waterloo' Bridge it was dedicated to the purpose of commemoration. In 1817, two years after the battle, the bridge was formally opened, with appropriate pageantry and ceremony, by the Prince Regent, after-



Rischgitz Studios

Opposite is a contemporary engraving of the bridge built by Rennie which was formally opened by the Prince Regent in 1817. Above is one of the arches and, on the right, a perspective view of the centring of an arch



Rischgitz Studios

wards King George the Fourth.

The cost of the bridge, including the north and south approach viaducts, was about £940,000 and the contractors who built it were Messrs Joliffe & Banks.

But the name most associated with old Waterloo Bridge is that of John Rennie, the engineer. The story is told that as two friends were strolling along the Embankment and came in sight of the bridge, one said to the other, "Wren's, isn't it?" "Mm—yes," replied the other, an engineer, "but we are so fond of him we call him Rennie."

Bridge building is an inspiring calling and it is small wonder that architect and engineer contend for it or share it in friendly rivalry, though throughout the 19th century it was recognised to be within the province of civil engineers and is one of the functions specially named in the Royal Charter of their Institution, as granted in 1828 by King George the Fourth. Rennie was essentially an engineer and a famous one. His other principal works were the London and East India docks and docks at Grimsby, Holyhead and elsewhere, the Plymouth breakwater and many other great enterprises, including Southwark and London bridges. He died in 1821, when Waterloo Bridge had been finished for some time, but London Bridge had not, and this was finished by his son of the same name but knighted, Sir John Rennie, third president of the Institution of Civil Engineers.

In the design of Waterloo Bridge, especially the monumental features of its elevation, Rennie is supposed by some to have had the assistance of an architect named George Dodd, but the evidence is uncertain.

However this may be, the design of the masonry showed intimate acquaintance with classic tradition. The 'order' of architecture was that known as Grecian Doric. The twin columns at each pier, the entablatures and cornices were all Doric. It was a style well suited to the grey Cornish granite chosen as material for the arched structure. This simple, austere style, moreover, harmonized with the basement storey of Somerset House, whose superstructure is of the lighter Corinthian order. The bridge also, as viewed by an observer placed to the westward near Charing Cross and looking down river, furnished a fitting foreground to the distant dome of St Paul's. It is believed to be this view of it which moved the Italian sculptor Canova to describe it as "the finest bridge in all Europe", worth coming from Rome only to see.

Another foreign visitor, Baron Dupin, wrote in 1825:

> If the people of the earth should one day enquire "Which was formerly the . . . Western Tyre which covered the ocean with her vessels?" the greater part of her edifices, consumed by a destructive climate, will no longer stand . . . but the Strand Bridge will ever exist to repeat, to the most remote generations, "Here stood a rich, industrious and powerful city." . . . If tradition tell the traveller that six years sufficed to begin and complete the work—if he learn that a mere company of merchants built this mass, worthy of Sesostris and the Caesars—he will the more admire the nation where similar enterprises could be the fruit of the efforts of a few merchants and private individuals.

A pity that so eloquent—not to say grandiloquent—a prophecy should be so sadly falsified in the event. But the "almost indestructible foundations", as another author called them, proved in the end—for good or ill—to be not so enduring after all.

The bridge had nine semi-elliptical arches of 120 ft. span, all of which originally were waterways. The land approaches were by viaducts of semi-circular brickwork arches, closed in and concealed by buildings on either side, and carrying traffic to the shore at the level of the Strand, which (as its name indicates) was once washed by the river at high water. Upon the construction of the Victoria embankment, the roadway of the embankment occupied one arch of the bridge, reducing the waterways to eight. That work was undertaken in 1863 by the Metropolitan Board of Works. Their engineer was then Sir Joseph Bazalgette, to whom a memorial tablet on the parapet wall near Charing Cross bridge is dedicated. As all visitors to London and most Londoners know, this embankment is watched over by the sphinxes guarding Cleopatra's 'needle'.

Another event in the lifetime of the bridge—and one affecting it even more closely though less conspicuously—was the driving, in 1884, of sheet-piling to surround each of the foundations in the river-bed. It was, by the way, the wood of these piles, when drawn, that was found to be American elm in such good preservation that much of it was fit to be used again. Some was used for doors in the Coronation Annexe to Westminster Abbey. Some was made into boxes as souvenirs—but this digression takes us forward too fast.

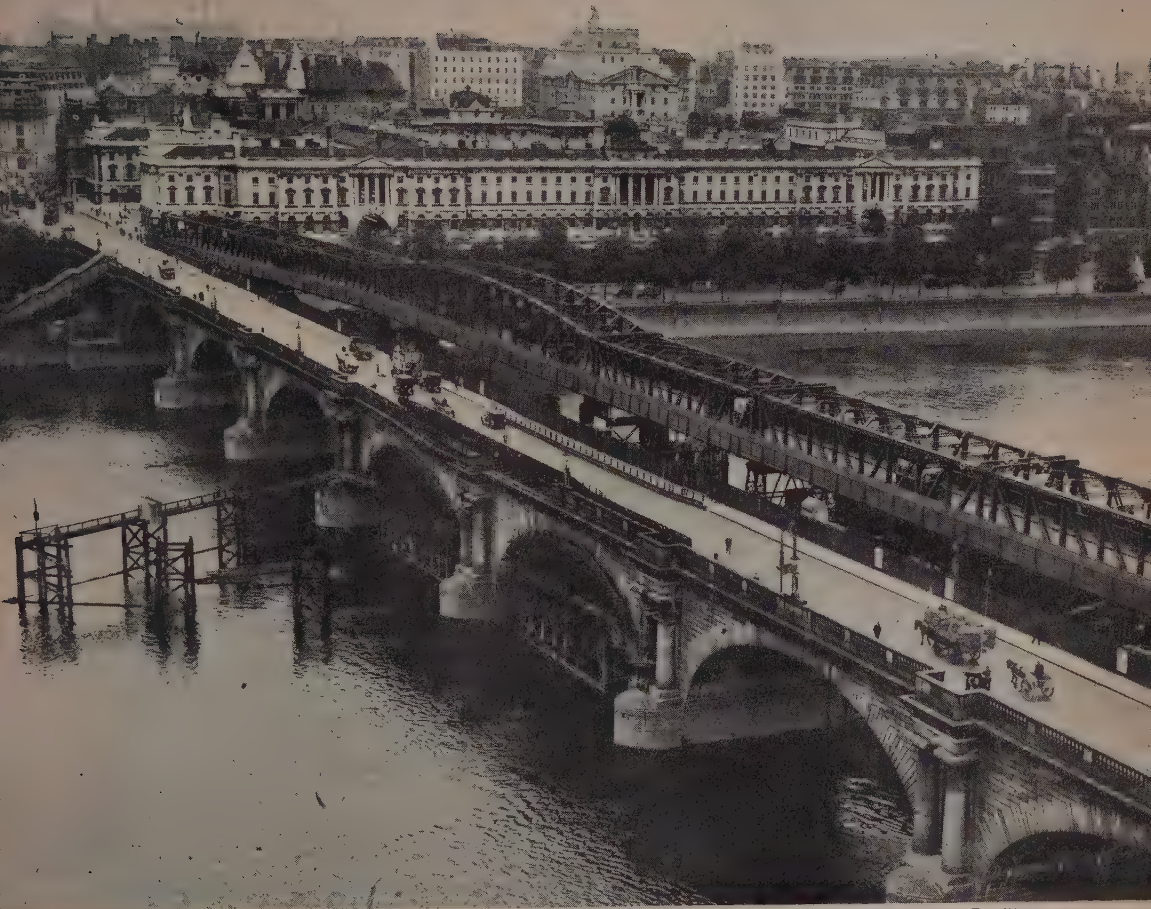
The old bridge, begun in 1811 and completed in 1817, was opened to traffic at first as a toll bridge. It was made toll-free by special Act of Parliament in 1877; when it was acquired, for £474,000, by the Metropolitan Board of Works.

After little more than a century, in 1923, signs of weakness and failure began to be observed. There was cracking of the masonry and settlement of some of the piers. It was very slight for the most part, but one pier went down more than the rest. The movement was as much as two feet and caused dislocation of the adjacent arches. The Thames bridges and the embankment had come under the jurisdiction and ownership of the London County Council upon its creation in 1888. Upon the threatened failure of the bridge in 1923, the then chief engineer of the Council, Sir George Humphreys, lost no time in having timber piles driven and timber centring put in under the two failing arches to prevent their collapse. Then, as soon as the steelwork could be designed and prepared, a temporary bridge was thrown across the river, being opened to traffic in 1925.

As the French say, "*il n'y a rien de permanent comme le provisoire*"—there is nothing lasts longer than a temporary arrangement—and that bridge has already been up for nearly 18 years, compared with the 120 years of the old granite bridge.

It might be said in fact that there is a succession of five bridges: the old bridge ; the temporary bridge; the gantry bridge over the old bridge (of which, more presently); the contractors' bridge alongside the new; and the new bridge itself.

Before a decision was taken to rebuild, there was long and bitter controversy in the press



Fox Photos

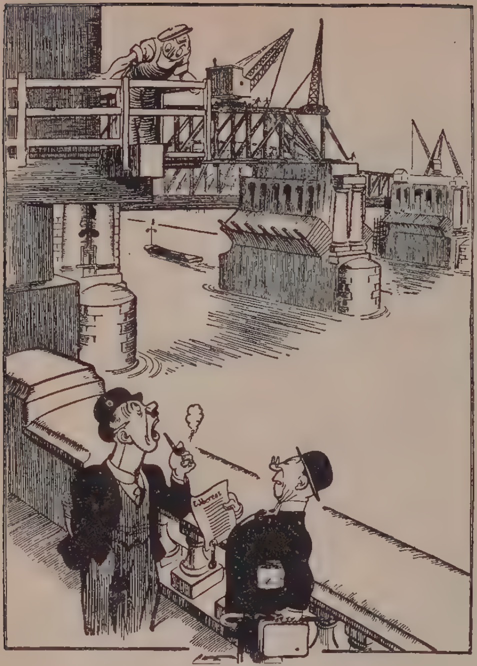
The failing arches of Rennie's Bridge have been propped and the temporary bridge constructed: 1925. Somerset House is seen in the background

and in Parliament as well as in the London County Council.

The question had to go before Parliament because Parliamentary sanction was needed before the L.C.C. could cover capital expenditure on such work by public loan, although they could do what they wished if it were charged to the rates. It was also felt by many that the national character of the bridge justified consideration by the Imperial legislature.

This controversy continued for years, with alternating decisions and reversals. Even at a later period when demolition had in fact begun, the echo of this vacillation prompted a cartoonist to the caption "Put it all back, boys—they've changed their minds again".

But, to continue the story, at one time the proposal was to recondition the old bridge. This would have been possible, by partly rebuilding and partly repairing it. A number of schemes for underpinning and restoration were produced, some of them feasible and backed by contractors' tenders. But none of them was adopted. It was recognized that the bridge had served its time. It was not a museum piece to be patched up and restored. To do this would have been to perpetuate the restriction of those narrow arches on the growing traffic of the river. The roadway



By kind permission of the London 'Evening News'

In December 1935 this cartoon was published under the title 'London Laughs' with the caption: "Put it all back, boys . . . they've changed their minds again"

too, though it would have been widened, could not be widened enough. So the old bridge must go. It would be wearisome to attempt to recall and record all the incidents and episodes of the ding-dong controversy in their exact sequence. The two problems to be met were the demolition of the old bridge and the design and construction of a new one to take its place.

A new bridge was planned, except for detailing, before the old one was pulled down. In fact it was designed twice officially and many more times competitively. The London County Council, in pursuance of their policy of relieving their chief engineer by engaging independent consultants for certain major works, had appointed Messrs Rendel, Palmer & Tritton as engineers and Sir Giles Gilbert Scott, R.A., as architect, to advise them. A first design was produced by these appointed engineers and architect, working in collaboration, in 1932.

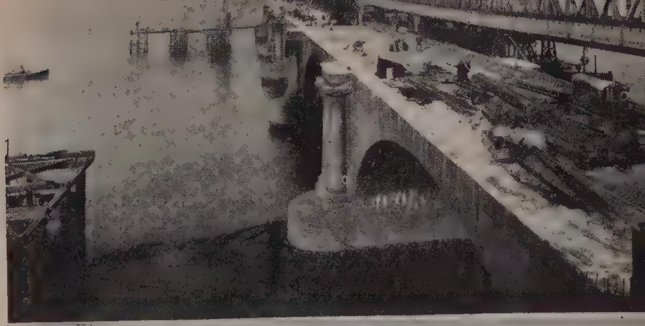
This design was monumental in character, having five arches over the river and two end spans, one over the Victoria embankment at the north end and the other over a corresponding width of the foreshore at the south end providing for a possible future embankment. At the four corners of the bridge rose four massive pylons over the embankment walls.

The plan was published, but not adopted. Still the political battle went on, in the Council, the press and Parliament. Meanwhile the engineers worked out a fresh design for a functional bridge, combining simplicity with efficiency to meet the requirements of road and river traffic. In June 1934 this was shown to and then developed in collaboration with the same architect as before. It embodied some of the features of the earlier design, but differed radically in other ways, omitting the pylons and the embankment spans, letting the five main 'arches' stretch to the full length of Rennie's nine. At the same time, just to make sure that no possibility was overlooked, the engineers tried out a score of variants, ringing the changes on all types of bridge: girder, arch, cantilever, suspension and so on. There was next to nothing that was not tried, on paper. Designs were also received from many other quarters. There were plenty of ideas—good, bad and indifferent.

Though all offers were considered, the County Council Highways Committee announced that of them all, they preferred the new design "prepared by the appointed engineers Messrs Rendel, Palmer & Tritton, in consultation with the Council's chief engineer and in collaboration with Sir Giles Gilbert Scott, R.A." This was in October 1934. Pictures in perspective were released to the press, and here I will confess that it was my voice, broadcasting anonymously, which told the public overnight how much they would like the design when they saw it in the papers next morning. The prediction was justified, for they did, and now that the bridge has taken form and spans the river, a popular London morning newspaper has said, " What a lovely sight is the new Waterloo Bridge. It is the loveliest modern building in London. It is one of the great bridges of the world."

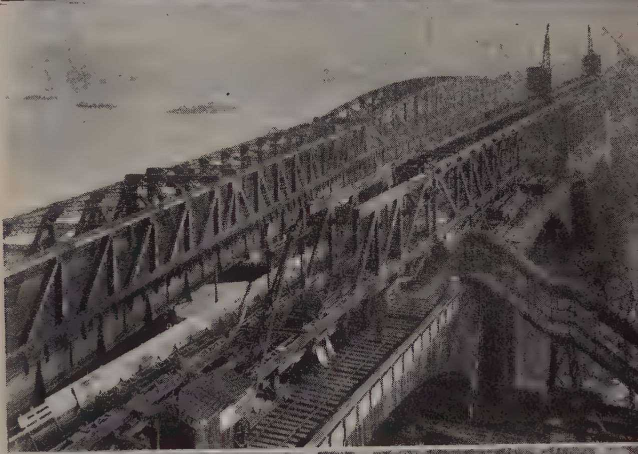
But in this tangled skein of history we must unravel the thread. Coming back to the decision to replace the old bridge with a new one, this involved complete demolition. The outward and visible sign of this decision by the London County Council as the "responsible authority" was given by Mr Herbert Morrison, as Leader of the Council, who ended the deadlock. Taking a pick in place of a pen, with a press photographer for witness, he lifted the first stone on June 20, 1934.

It was not random demolition. The bridge



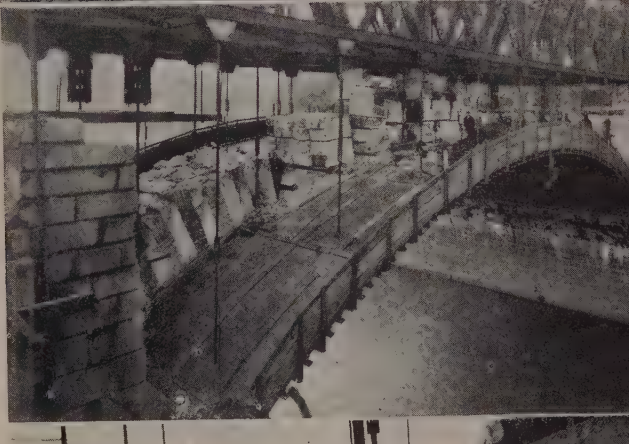
The parapets and cornices having been removed, the bridge is here viewed from the Surrey side, in November 1934. The river is at about half-tide level

By courtesy of the L.C.C.



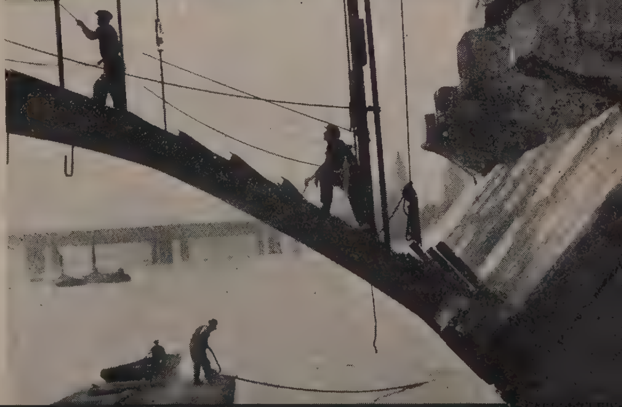
On the last day of 1934, the overhead steel gantry was nearing completion. The stairway on the right leads up from the Victoria Embankment

By courtesy of the L.C.C.



Nine months later, after the centring had been hung by suspension rods from the overhead gantry, the masonry arches were well on the way to disappearance

By courtesy of the L.C.C.



Six weeks later, in October 1935, the removal of the central arch had been accomplished; only the centring remaining. Hungerford Bridge, Charing Cross, is seen in the distance

Rischgitz Studios

could not simply be felled into the river to obstruct the channel. It had to be taken down almost stone by stone. Coining a word when broadcasting again, in August 1936, I called it the 'un-building' of the bridge. It was a difficult operation and was entrusted to Sir William Arrol & Company, the contractors who had put up the temporary steel bridge. By a strange paradox, it was first necessary to construct a new temporary lattice steel gantry or bridge placed vertically over the old masonry arches. These were next supported by cradling slung by suspension rods from the steel structure and then were broken up and removed without shock, so preserving the balance or equilibrium of the whole.

First the balustrading was removed. The balusters, marketed individually as mementoes, sold like hot cakes. Some went to Wellington in New Zealand, some to Rennie's birthplace in Scotland, to figure in a memorial there.

The roadway was removed, then the arches, their haunches and the spandrels between them. These were revealed as hollow, consisting of alternating parallel walls or ribs and void spaces, behind the granite facing. The onlooking public may have been surprised, but not the engineers directing the work, to whom of course it was already known from contemporary drawings. Even with such hollows the weight on each pier was about ten thousand tons: without them it would have been much more.

The arches and spandrels having been successfully removed without premature collapse, only the piers were left, seven in the river and one incorporated in the embankment wall. Those in the river were surrounded by coffer-dams of steel sheet piling, dewatered by pumping, and the piers pulled down—or up—stone by stone, until the foundation courses were reached.

Then the cause of the bridge's failure became more apparent than it had yet been.

The nature of the foundations was already known. Under each pier there had been driven into the river-bed a forest of timber piles, on which there rested a rectangular capping or raft of timber baulks and thick planking. The raft being about double the area of the pier shaft was to spread the 10,000-ton load and thus reduce the pressure per square foot on the soil. The transition from pier to raft was by the up- and down-stream cutwaters and by four courses of projecting stones or footings. This type of foundation was quite normal design at the date of the bridge's construction, and was known to have been adopted not only by the evidence of drawings, but because the footings of the first pier on the Surrey side were at a higher level than the others and were visible above the foreshore at low water. This and several of the other piers had suffered little or no harm from any settlement. But two or three of those in midstream had gone down, and the unwatering of the coffer-dam revealed the reason why.

It was for all the world as if a gardener, treading on soft soil with a board under his foot, found the board too thin and pushed his foot right through it.

The projecting stones of the pier footings had turned upwards and fractured, especially at the corners of the rectangle, which were furthest from the oval of the pier. So, instead of the 10,000-ton load being spread over a large area, giving an average of less than four tons per foot on the clay bed, the load was concentrated on a smaller area, thus increasing the pressure per foot to nearly double, which proved too much for the clay to carry. So the centre of the raft had been crushed deeper into the river-bed, pressing the piles under it further into the clay and breaking some of them. To engineers it is of especial interest to observe that in the pier footings of London Bridge, which was undertaken a little later by John Rennie, and completed by his son Sir John Rennie, the spread is made more gradually through ten courses, thus avoiding the weakness of which he may have become aware in Waterloo Bridge, though its full effect was deferred for a century.

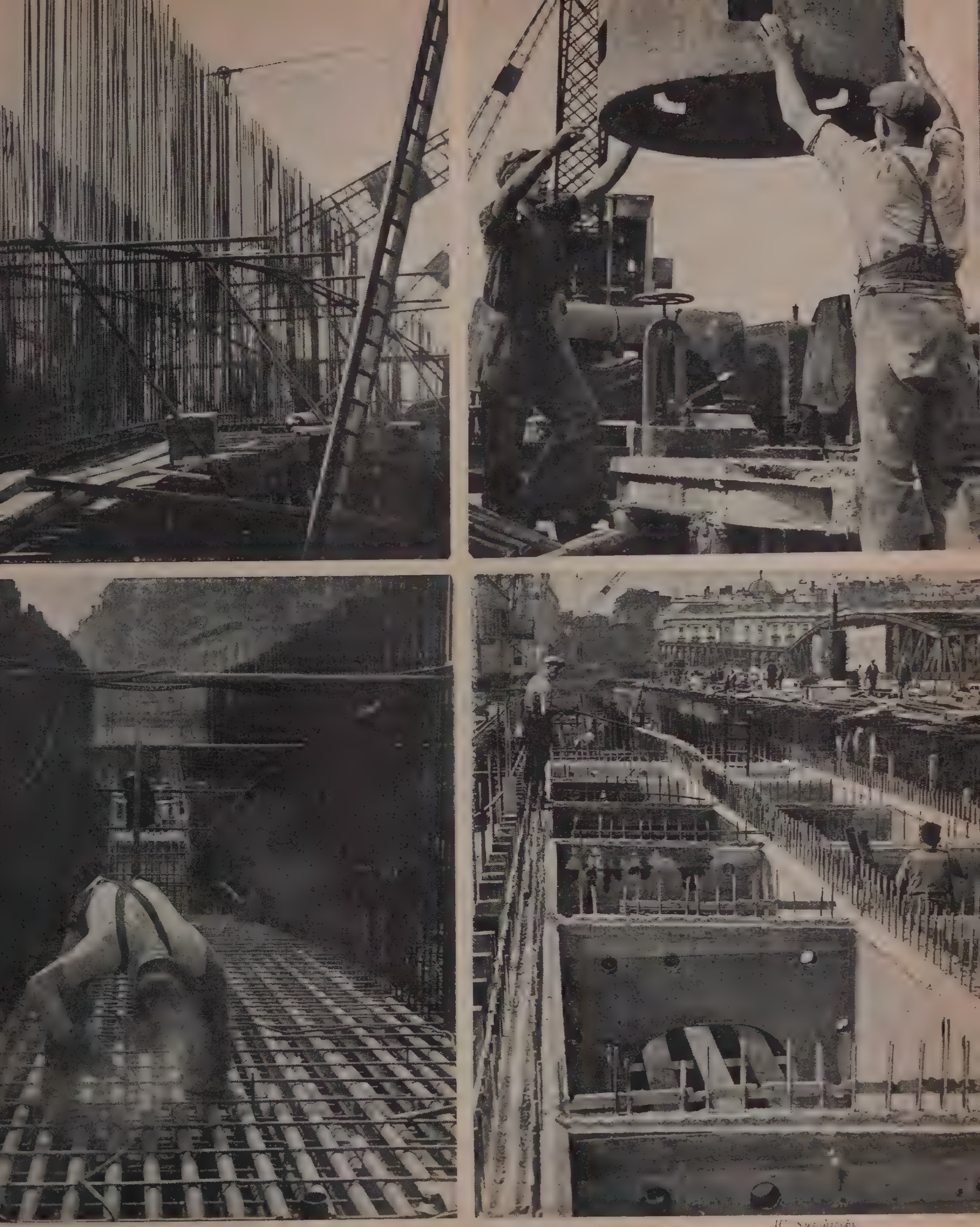
An interesting incident of the demolition was the finding of articles which were known to have been deposited and sealed in a cavity of the masonry. These were specimens of the current coinage of George III, ranging in date from 1787 to 1811, and appropriate inscriptions on parchment and sheet lead.

Part of the same stone in which these were found was built as a foundation stone in the new bridge, enclosing current newspapers, coins, postage stamps and inscriptions.

It was during the demolition of the old bridge that dredging was done to deepen a

This entanglement almost beggars description, but, to start with, we are looking southward from half-way across: a row of temporary cranes or 'derricks' occupies the centre of the picture, with the contractors' bridge on the right and, on the left, the new bridge, in which can be distinguished three portions: these are the two lines of 'arches' and the central horizontal deck between them. On the further bank, to the right of the picture, is the concrete-mixing plant

LIMD
DON



W. Suschitzky

(Opposite) *A stone mason at work sinking a hole for insertion of a lewis, by which the stone can be lifted.* (Top left) *Steel bars, mostly vertical, for 'reinforcement' of the new concrete.* (Top right) *A concrete 'skip' being lowered by crane on to a travelling 'bogie' or wheel truck.* (Bottom left) *This man is busy welding the intersections of steel bars in the reinforcement at the bottom of one of the arches.* (Bottom right) *The arches are cellular in construction, the cross diaphragms giving sufficient rigidity without too much weight* navigation channel through which to divert river traffic while the normal channel was obstructed. This gave rise to an amusing episode. Dredging at night had to be discontinued because of a complaint from guests at a neighbouring residential hotel that the clanking of the bucket ladder chain disturbed their rest. The dredger crew's night shift being thus frustrated, got revenge for their enforced inactivity by complaining in their turn thay they could not sleep but were kept awake by the strains of the hotel's dance band!

Eventually the last arch was broken up, the temporary steel gantry dismantled, the last pier taken out, and the river cleared for building the new permanent structure.

The design of this is now familiar, but some features are of special interest. To harmonize alike with Somerset House, built before the old bridge, and with the modern office block, Brettenham House, that now confronts and balances it, was not easy. It is achieved by the adoption of a Portland stone facing which in time will weather like the buildings, and by a simple grace of form which is neither so intricate as the style of Somerset House nor so entirely plain and functional as Brettenham House, but a mean between them.

The bridge is much wider than the old one: 80 ft. in place of 43 ft. between parapets. This has the effect of lengthening the waterways for river traffic underneath and would have made them seem like long tunnels, if they were only 120 ft. wide as before when there were nine of them—or rather eight waterways and one roadway, the Victoria embankment. In fact the spans are now wider, averaging about 236 ft. in the clear, since there are only five of them in the same overall length of 1240 ft. as the former nine. Lest the watchful reader exclaim at seemingly false arithmetic, let it be quickly added that the piers make up the apparent discrepancy, though they are only four instead of eight.

One result of this reduction in the number of spans constitutes a distinctive and attractive feature of the new design. The first pier is not in line with the Embankment wall as before, but out in the river. The first span being wider than formerly, the Embankment roadway does not fill it wholly, but only partly. On a larger scale it is something like a towpath passing under a canal bridge. In this respect the new bridge is believed to be unique and to strike a fresh note. The absence of any pier on the line of the river wall will leave open, when the remaining obstructions are cleared away, a clear view along the whole sweep of the river from Charing Cross down to Blackfriars. The bridge is situated just at the bend in that reach of the Thames lying between London and Westminster bridges which was named the "King's Reach" in the Silver Jubilee year of 1935.

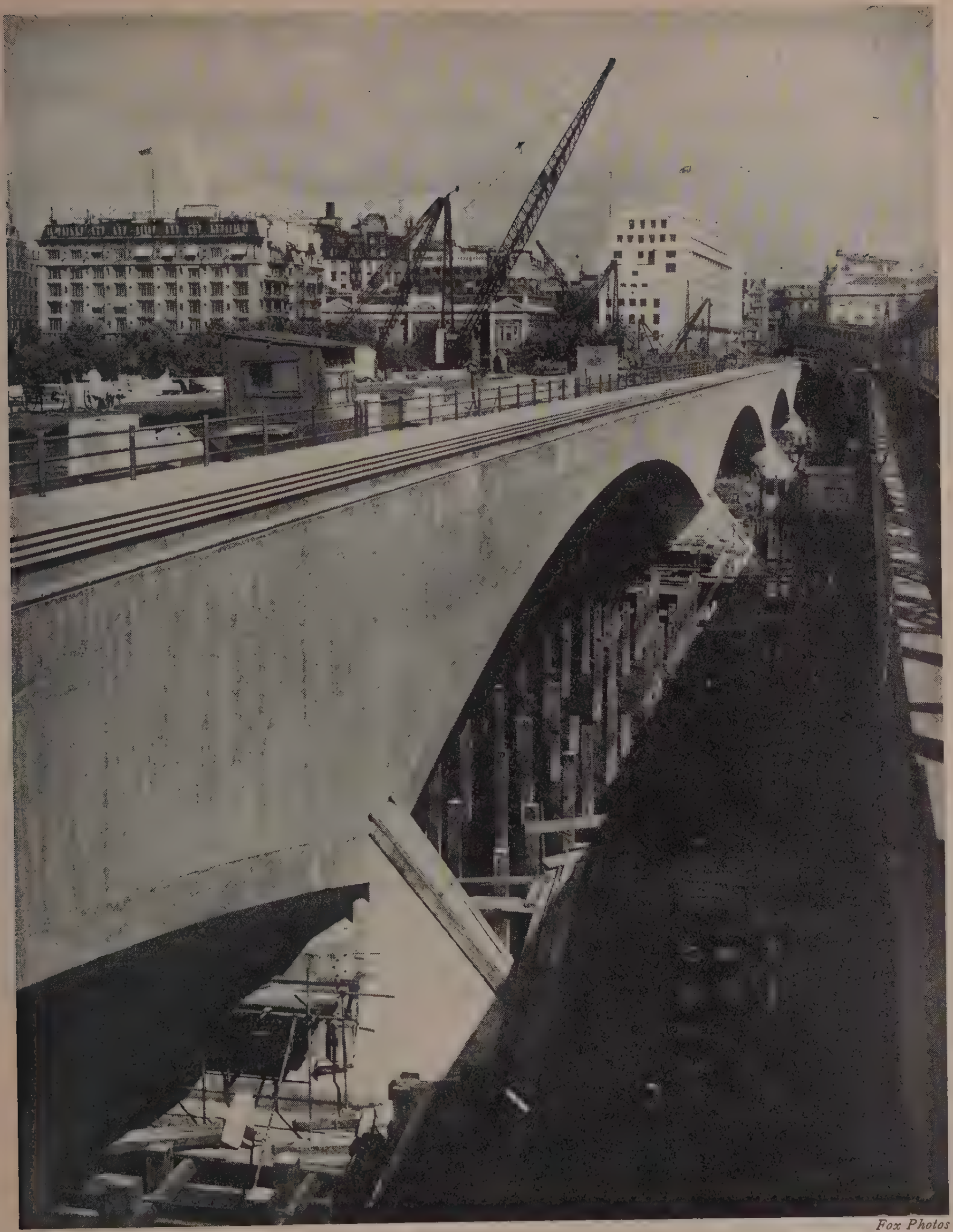
An air of structural lightness is enhanced by the piercing of apertures in every pier, opening a line of vision right across the river on the axial line. This is rendered possible by the division of the width into twin 'arches' on the up- and down-stream faces, with a shallow horizontal deck spanning between them and carrying the roadway.

In elevation the same effect of lightness is given by the slender lines of the structure. One would hardly suppose it capable of carrying full Ministry of Transport loading, with provision for a single heavier vehicle such as a 100-ton lorry.

There is no apparent 'rise' in the roadway across the river: it follows a straight horizontal line, or rather appears to do so by reason of a small rise of a foot or so. If built to a dead level it would appear to droop. In a case like this, on a tidal river, the proportionate width of piers presents a problem. There is a twenty-foot range of tide between high water, when the piers are submerged, and low water, when they are exposed for the maximum height and tend to appear 'leggy'. In any case they are in reality masonry shells protecting, with cavities between them, the inner load-bearing reinforced concrete piers.

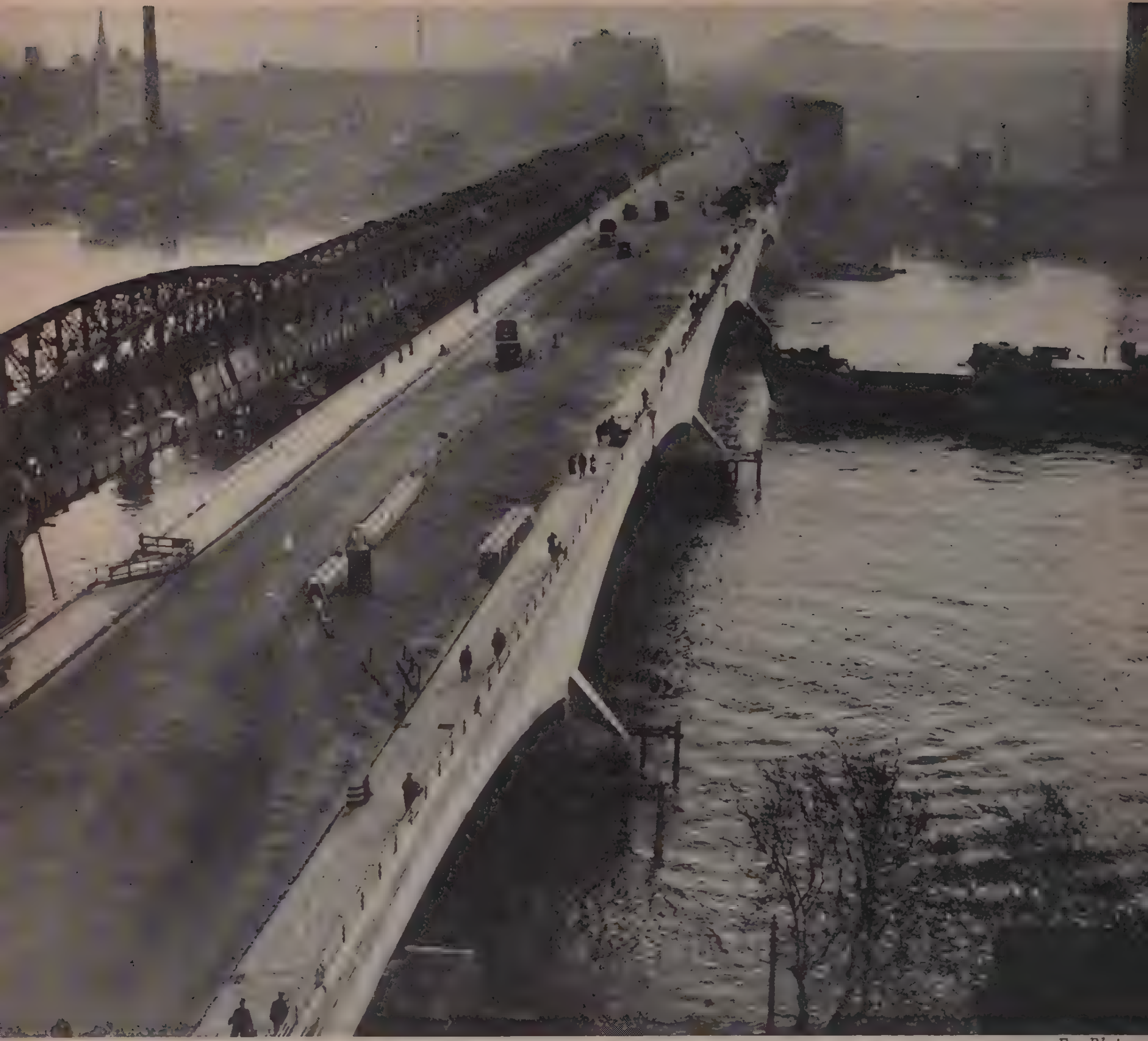
In the construction of these pier shells or casings some of the granite derived from demolition of the old bridge has been worked in, re-dressed and used as facing up to high-water line. There is also, as a memento of Rennie's bridge, a commemorative panel built into the south abutment and terminating the vista across the river through the axial pier apertures.

Apart from these uses of the old granite and the facing of Portland stone, nearly the whole of the new work is in that modern material called ferro-concrete, or reinforced concrete, consisting of concrete (cement, sand and crushed stone or gravel) and steel reinforcing bars. In the present case the concrete is of the highest grade in respect of materials and workmanship in mixing and placing—or 'pouring' as it is called. The steel bars vary in size from 2¼-inch diameter downwards and are welded together at joints and intersections. There are a million and a half of such welds. The combination is of immense strength and it is this which makes the structure possible. It may be said that in this way history repeats itself. The Forth Bridge,



Fox Photos

The new bridge nearing completion, looking northward, with Brettenham House and Somerset House at the further end



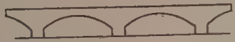
Fox Photos

By courtesy of the L.C.C.

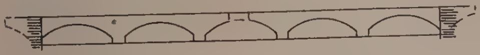
(Above) *The new bridge partially opened to traffic, looking southward towards Waterloo Station.* (Left) *The new bridge in October 1942. The northernmost span is partly screened by the Embankment trees. Beyond the central arch, St Paul's is in the distance. The fifth arch is still hidden by temporary staging and the temporary steel bridge is still in place just downstream of the new bridge* built sixty years ago, was made possible by the availability and use of steel in place of wrought iron, giving greater strength with less weight. To the uninitiated it may be explained that the greatest load a large bridge has to carry is its own weight and that thus every pound of weight that is saved, because the greater unit-strength of steel enables members to be smaller, is also a pound gained, in reduction of load to be carried. Similarly the increased strength of modern reinforced concrete weight for weight in comparison with former standards for this material renders possible the construction of modern bridges such as this.

It is characteristic of modern bridges to offer the least possible obstruction to traffic both over and under them. In the case of a bridge carrying a road over a river, this means a wide waterway or ways and a wide, straight and level carriageway, with neither hump nor bottle-neck nor sudden bends in the approaches, such as characterized medieval bridges or even many built in the 19th century, before modern materials and methods gave mastery over conditions and before motor traffic rendered such improvements essential.

In this bridge the so-called 'arches' are not arches in reality, but only in appearance. They are really beams, or—to be technically exact—cantilever girders. In the last analysis the structure is made of elements as here sketched:



each comprising two girder spans and two cantilever arms, of which elements two are placed end to end, the cantilevers that nearly meet in the middle combining with a short suspended connecting portion to form the central span; while the cantilever arms at either end are screened by the abutments thus:



A homely illustration is furnished by picturing two three-legged forms placed end to end:

It is essentially a modern type, especially suited to expression in reinforced concrete. Another example of cantilever construction is the George V bridge in Glasgow. The structure is of course cellular, to save material and to save weight, the diaphragms dividing the cells being pierced with apertures for the same reason and to give ready access to all parts of the interior. Water and hydraulic mains and telephone cables cross the river by passing through the bridge from end to end.

Functionally, of course, the purpose of the bridge is to carry a road across the river. The immediate approaches are Wellington Street on the north and Waterloo Road on the south. In a wider view the road is a main artery through the metropolis from north to south on the route from Highgate, via Camden Town and Kingsway, to St George's Cross and the Kent Road. The width of roadway between kerbs is designed for six lines of traffic, and the bridge carries the 'buses of six routes in regular service.

Rebuilding having been begun in 1937 and construction continued notwithstanding the outbreak of the war, the contractors, Messrs Peter Lind & Co., Ltd., and the Chief Engineer of the L.C.C., Sir Peirson Frank, as well as the Engineers and Architect already named as being specially 'appointed' for this major work and the resident staff, can look back upon the labours of the past six years with a sense of achievement, as they see it substantially completed.

For the present, however, and as a wartime measure, the construction of two of the four stairways is deferred, the bridge parapets are temporary, no lampstands are put up and in some other aspects also the subsidiary works are left in abeyance and only essential works carried to completion. The temporary bridge alongside is still in place and the river wall has not been tidied up. These factors affect the present appearance of the bridge, but it is possible nevertheless to judge what it will look like when the finishing touches have been given, the background cleared, and when in course of time the Portland stone has taken its characteristic black-and-white weathering from the London atmosphere.

May the forecast of a popular paper be fulfilled and Londoners be as proud of the new bridge as they were of the old one, so that, when ultimately the time comes for it to be superseded in its turn, "there will be just as great an outcry as there was over the pulling-down of Rennie's masterpiece".

A Desert Log

by CECIL BEATON

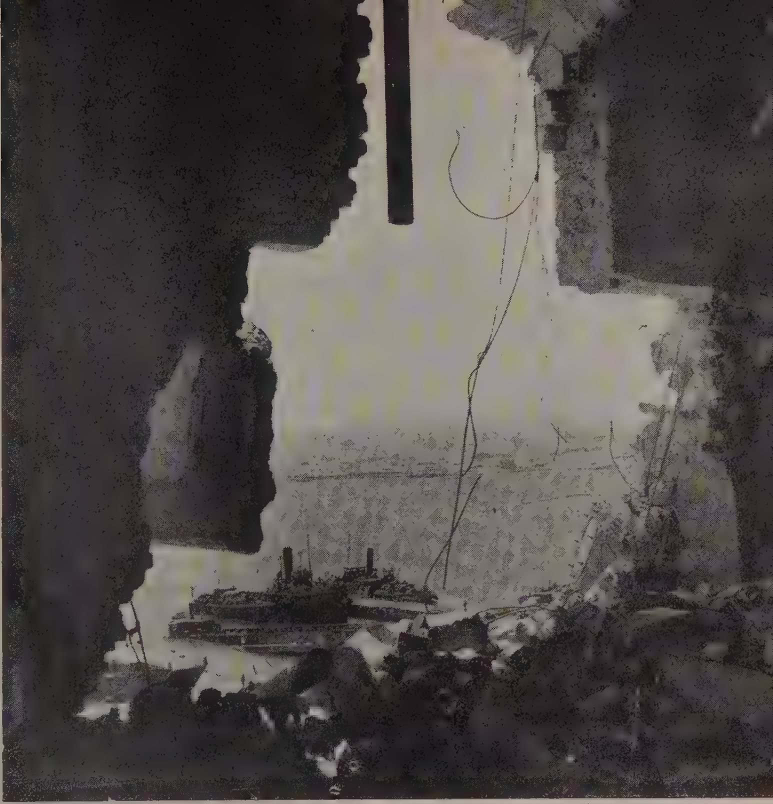
Mr Cecil Beaton was recently given an opportunity of exercising his skill as a photographer with the 8th Army in the Middle East. Some of the photographs he took are presented here, accompanied by notes from the journal he kept while making a tour of the Desert battlefields

All photographs by Cecil Beaton

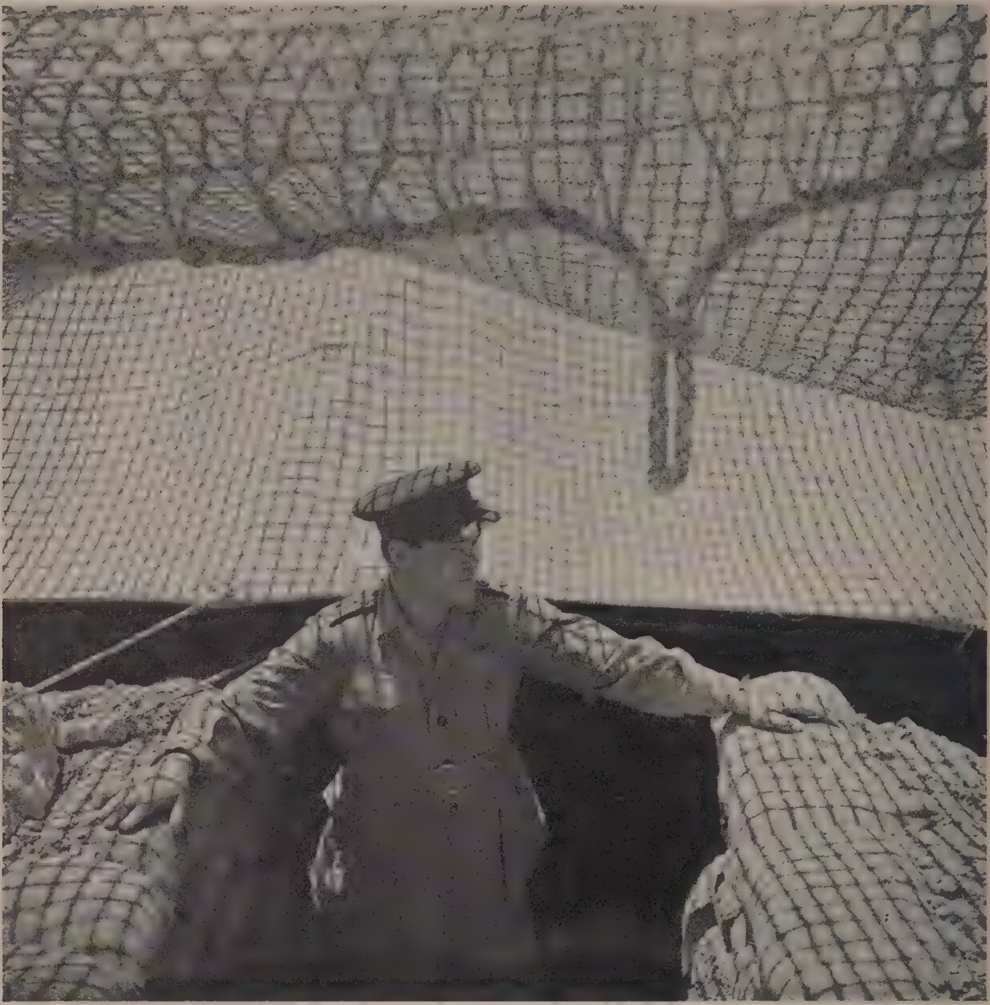
When I first arrived in the Libyan desert, I was surprised to find how little sand there was. I had thought of all deserts in terms of sifted dunes of powdered sand—rather than in terms of desolation. Here was emptiness, grit, stone, uselessness by the square mile. Only when the wind blew was one conscious of the sand that infiltrated into one's eyes, nose, ears, hair and every pore of one's skin. The landscape was without features: a vast abandoned dump-heap—flat, without colour, under a sky without cloud. So it remained for days.

I visited many units of the Army, the Air Force and the Fleet Air Arm (yes, there are sailors in the desert), and noticed that the further 'forward' I went the higher soared the spirit of the men. The nearer to danger they were, the gayer they seemed to be; and the further from the comparative comforts of the base areas, the more contented.

(Opposite) *A British soldier hoisting the White Ensign on Navy House in the harbour at Tobruk. Below is a 'General Grant' tank in the Western Desert with a corporal on the look-out.* (Right) *A vista of bomb damage at Tobruk Harbour seen through the wall of a ruined building. An equally famous anchorage is shown below it: Sollum; its brilliant turquoise water is full of the wrecked carcasses of mined and grounded ships*

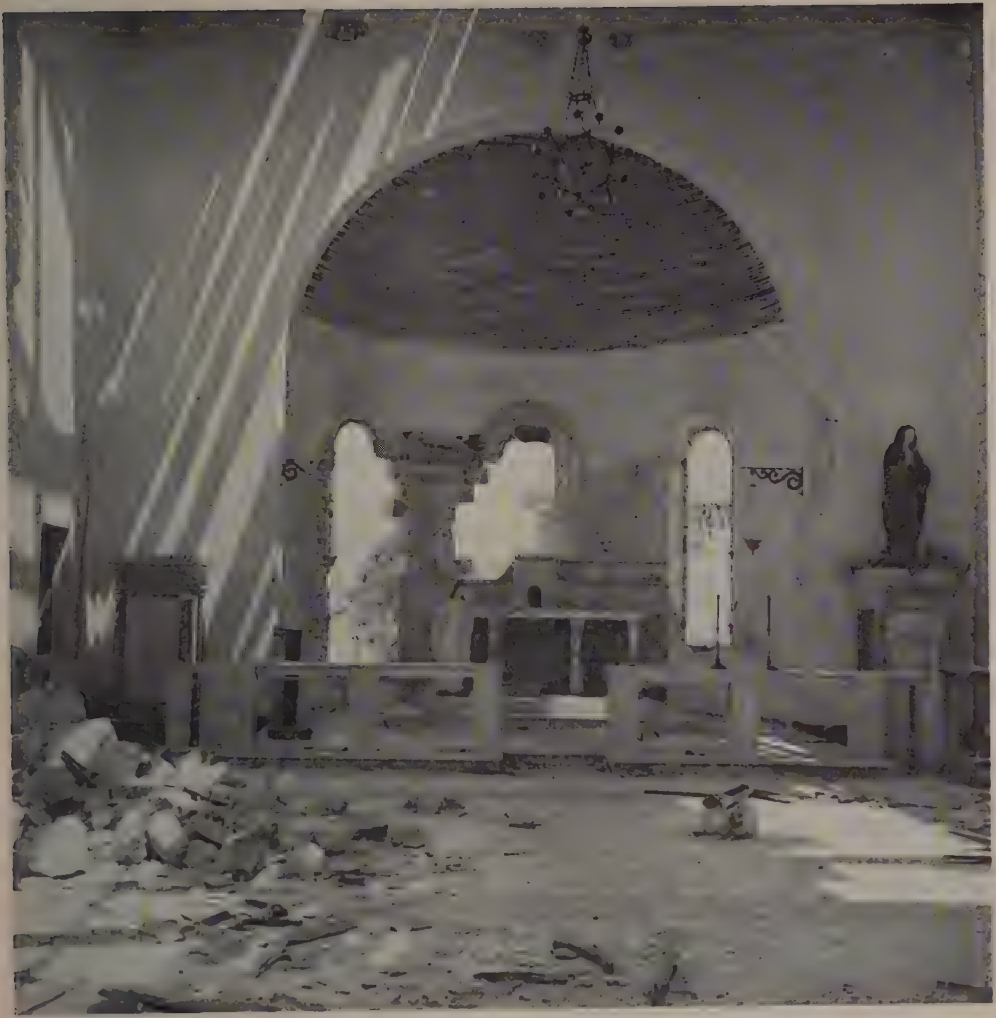


Having their dinner of tea made from brackish water out of a cigarette tin, a wad of bully beef, or a stew of 'm. and v.' (meat and vegetables), with 'reinforced biscuits', these light-hearted, friendly men reminded me of Boy Scouts camping out in the holidays. Each man, knowing that here in the danger zone unpleasant things are never far away and that the horrors of war are so close a reality, seems to be intent on making life as pleasant as one man can make it for another. In this God-forsaken spot, talking in strong Lancashire — or other county — accents, sun-burnt to the colour of rich cedarwood, with bleached hair, wearing shorts, sun-glasses and topees, these men are, in spite of a superficial unlikeness, no different from their opposite numbers working in camp or aerodrome throughout England. It is only the environment that is



Patterns in camouflage at a concealed British position in the Western Desert

strange. And yet, strange and unsuitable a habitation for man as the desert is, it must be admitted that it brings with it contentment. But for the fact that a return home seems so far distant, these men could be considered happy. So physically healthy is their life here, that many of them have never before looked or felt so strong. It is only when they cut a lip or when a sore appears on their chin that the desert atmosphere's effect, in keeping cuts and abrasions open, is realized. Although there must necessarily be a great deal of boredom while waiting about for action, it surprised me to find how busy at their various jobs the isolated groups of dispersed men in the desert are throughout the hours of daylight. They are ant-like in their activity, and one might say they are as happy as sand-boys. They are indeed like boys in possession of extremely expensive toys—tanks costing many thousands of pounds, or aircraft with engines of terrifically high horse-power. This impression of childishness is accentuated by the strong desire, due to something in the air, that almost all men in the desert acquire—a



Inside a wrecked church at Tobruk. The undamaged figure is famous locally as 'the Angel of Tobruk'

desire for sweets, sugar and chocolate. When I was in the desert I experienced during twenty-four hours the changing climate of the four seasons. The evenings were autumnal, the nights positively wintry, though clear with all the stars out, the early mornings nippy but fresh like springtime, and high summer was achieved by noonday.

My first stay was at an air station where the medium bombers were kept loaded up. They flew to an advanced station for refuelling, and thence onwards, generally to Benghazi and back. These operations took the men over distances of two thousand miles. They were repeated after one night's rest, so that after thirty trips some of the pilots became 'operationally tired'. The aerodrome, like all others in the desert, was a camp composed of tents of various sizes widely dispersed, the canvas camouflaged with patches of oil, so that they look like dappled Guernsey cattle.

The following are some jottings from my diary.

" Hell, that's a bad landing, must have

(Above) *The 8th Army gets occasional respite from desert life on leave in Syria: this R.A.F. officer lingers among the ruins of Baalbek.* (Left: top) *Fleet Air Arm personnel leaving their desert tent for an operational flight;* (middle) *lunch time in a R.A.F. Fighter station in a forward area;* (bottom) *consulting the desert map library.* (Opposite) *Men of the Long Range Desert patrol, comfortably clothed according to their fancy, taking their ease. They are among the pick of the 8th Army fighting forces, and endure the hardships of life in the open desert for months on end, harrying the Axis forces behind their lines and continuously making 'hit hard and get away' raids*

been done by the second pilot. Damn nearly over-shot." An individual dust-storm is raised from the slipstream of the bomber aircraft as it taxis along. A boy waves his arms: the aircraft comes to a standstill. A red-faced bullock-like youth, with three stripes on his cuffs, puts his hands to his mouth and shouts: "Don't race the engines, you're sending all the sand into the other fellows." The crew lope out from beneath the aircraft. "Who did the landing?" "I did," said the captain. No more is said. The rear-gunner, from Surrey, wears, tied to his leather coat, the small pink shoe of his eight-months-old daughter. This is the return from a ten-hour operation. It is almost painfully unspectacular—the chief actors insist on this.

* * *

While I was with the Greek Squadron, two of their aircraft took off in answer to a report that a possible enemy bandit had been

sighted. We watched in the operations room while the course of the stranger was plotted. The Greek controller gave his advice to the pilots. An Adonis with classical profile and dark ringlets issued his instructions in clipped English on the R.T., and the hoarse replies from the pursuing aircraft were also heard in English, but when the pilots became excited and eager, in order to make themselves more clearly understood they would gabble a translation, as an aside, in Greek. Those watching the plot listened to the latest instructions with tremendous enthusiasm, hoping that the bandit coming down to the coast from the north-west would fly into their zone, but what a disappointment! The message came through, "Aircraft presumed friendly."

* * *

The moon was still bright when the alarm clock sounded at 4.30 this morning. The camp dogs barked at our departure. Five of us, mostly war correspondents, set off, shivering, to welcome back the crews of Wellington bombers that attacked in force the submarine base at Leros in the Dodecanese in the night. The correspondents were not optimistic about the prospects of

their trip. Such 'pranging' stories as "I saw the explosion like an orange bursting open" or "it was first class" or "a piece of cake" had so often been told that they were no longer news.

After driving fifty miles we found a heavy mist enveloping the ground, and as the veil of dawn lifted the ground-mist thickened and the returning aircraft were directed to land at a different aerodrome. One crew did return, however, to its original base. After watching the interrogation we drove to the air station to which the other aircraft had been directed. A group of tousled, gypsy-like Canadians climbed into the lorry to go back to breakfast after an 'easy' trip. They had not flown into any cloud, the flak was "nothing to them", they had got their target. "Done much damage?" I asked. They thought for a split second. "Yes, yes, we must have done a hell of a lot of damage come to think of it." That was the first thought they had given to the damage they had done. To them the whole operation is so impersonal that it is only a question of getting or missing the bull's-eye.

When there was no report for an hour from one aircraft the Commanding Officer said quite casually, "Well, he's either recovered his engine trouble or is in the drink by now." Everyone was too busy to seem worried.

The raid on Leros had been as big as any undertaken recently. The Commanding Officer, who had planned the operation, had before the war inaugurated the long-distance flights from Egypt to Australia. He gave us further information about the night's activity. Eight squadrons had participated, and this in addition to those on the usual night trip into Benghazi, the 'mail run' as it is called. They knew that at Leros several oil tankers were set on fire, and they dropped special bombs with a tremendous blasting

(Opposite) *Close-up of a member of the Long Range Desert Patrol, wearing a headdress known as a* tazrifa. *The smaller pictures show,* (above), *an 8th Army soldier outside his tent in the oasis of Siwa and,* (below), *washing operations in a wadi near Tobruk.* (Right) *The Desert laundry billows with life*

power, so that a 'near miss' buckled the plating of a submarine, doing almost as much damage as a direct hit.

* * *

In Tobruk I was filled with admiration for young nurses attending hospital cases with calm fortitude. These women smile and are gay, refusing to be worn down by the pain and destruction around them.

* * *

It is heartening to realize the effect the R.A.F. has upon the enemy. A German sergeant once admitted, "We get it pretty bad with British planes here. The beggars are here the whole time. Of our Luftwaffe there is nothing to be seen. And I admire the iron resolution with which the British fight on from that isolated post [Tobruk]. It was in their power to abandon it by sea long ago."

* * *

When we complain of our inadequacies it is as well to remember the request sent in to the German General Cruewell (since captured) for more bed-equipment and tents. The reply was, "Sending three cases of dried prunes, which, when soaked in sugar, are very nice."

* * *

The washing flaps on the lines, the pyjamas of the Eighth Army billow with life as they hang in the wind to dry—a touch of Aldershot brought to the Desert. The mail-bag arrives, and every man is transported back to his home environment, and many who have fought dauntlessly can be heard modestly saying that anything they have had to put up with has been as nothing compared with the endurance of the civilian population in the bombed towns of England.

On Leave in the Lebanon

by CAPTAIN QUINTIN HOGG, M.P.

Many members of the 8th, 9th and 10th Armies serving in the Middle East have been refreshed by periods of leave in Syria and Palestine. Captain Hogg, who has just returned home after two years' service with The Rifle Brigade, describes one such leave, spent in walking with a donkey in the hills of the Lebanon

LEAVE in the Middle East is always a difficult problem and needs careful planning. I was thrown into it with little time for preparation and I had to make my decision in a hurry. For my chief was called suddenly to Cairo and I was left to take the fourteen days generously ordained by the C.-in-C. The problem was how and where.

I was stationed in the Lebanon, and where mountains are near, my instincts as a member of the Alpine Club are easily aroused. Inspired by one of the letters of Gertrude Bell, I determined to make a walking tour in the Lebanon hills.

The difficulties were formidable. Distances between stopping places are sometimes great, for in parts the country is wild. I should need not only a rucksack but a bed, and provisions. The difficulty was, how to carry them. I went to my old friend the Quartermaster. Had he a donkey? Why, of course he had. Would he lend it? Willingly, and, for a consideration, I found a man who volunteered to look after the donkey for me. He was a Christian Arab from the mountain village of Roumeh, above Beirut.

Apparently the donkey needed shoeing—and, strangely in a land where the pack is the ordinary means of transport, no smith was to be found for fifteen miles. I afterwards found that shoes for pack animals are considered something of a luxury by the Arabs. However, the donkey went down the mountain in the ration truck, and came up again with bright new footwear.

Hitherto I had not looked my gift horse in the mouth. I now did so, and discovered that he was quite the smallest donkey in the Middle East. Throughout the tour I was often and affectionately asked why I had so small a beast of burden. I should have thought him a foal had he not constantly shown the most convincing proofs of virility.

I discovered that his name was George and that he had been made a pet of by a kindly English lady before the war. He was considered unsuitable for an active life by reason of his small size, but answered well to his name and evinced a remarkable taste for chocolate biscuits.

His Lilliputian stature necessitated a reduction in my baggage. The bed was jettisoned, and my final pack contained only changes of clothes, two tins of N.A.A.F.I. sardines, four tins of bully, a large quantity of ration biscuits, an officer's valise and a kapok sleeping bag. I wore uniform, and carried a pistol to protect me from an imaginary danger of bandits or the singularly improbable chance of an Axis landing.

The Lebanon mountains form an interesting Christian enclave in the Moslem world. When Islam swept over the Roman world they covered Iraq, captured Damascus, poured over the Anti-Lebanon, and down the Bekaa valley, came over the Homs-Tripoli gap, occupied the coast, and joined their brethren in Palestine. But although the Northern valleys are to some extent peopled by Shiite Moslems, while the Alawites north of the Lebanon owe a somewhat shadowy allegiance to the Prophet in spite of a marked inclination to strong drink, the hard core of the Lebanon remained, and remains, obstinately Christian. When the horsemen of the first crusade came down the coastal road in the 11th century, strange bearded figures descended from the mountains, making the sign of the Cross. They proclaimed themselves Maronite Christians. Their descendants live there still, augmented by refugees from persecutions of more recent times. Under the Turkish rule Lebanon maintained a partial autonomy under their own Christian Emirs at Beiteddin.

During the whole of my tour on the west face of the massif I saw, I think, but one Moslem shrine, and the only Mohammedan people were a few shepherds, who had their main headquarters over in the Bekaa valley or on the coast. The country is a Christian country with the familiar churches and shrines of Catholic Europe; while the agriculture—vines, terraces and cereal crops—reflects the simple cultivation of medieval Italy or Provence. The land is largely owned by monks, and monasteries are seen on many tops. Motor roads come up from the coast. But these *routes carossables* are not the tarmac of modern tourism, but tracks, badly gradiented and corkscrewed, hewn out of the rock. They did not trouble me much as I was heading north for the Cedars, and between valleys the mule track reigns supreme.

North of the little village of Beskinta I found myself in a new world, or rather a very old one. Transport is by pack, on horse, mule and ass, the last, in contrast to George, often as large as a horse and much more lusty. The fraternity of the road is complete. Though the Lebanese have some rich men, they live in the cities. The people are classless, unself-conscious in their friendliness and interest, generous of their hospitality, sharing and exchanging their food, and welcoming the traveller with friendly cries. No passer-by is allowed to go without a greeting and a chat—sometimes of long duration—and at every house hospitable *Tfaddls* tempt him inside into the shade to test the grapes, and dip a sop into a bowl of *laban*.

Religious divisions are numerous. In the village of Mayrouba, near one of the religious houses, I fell in with the Syrian Archbishop of Aleppo, who furnished me with his visiting-card and a formidable list of the various communities I might expect to find.

Agriculture is primitive. I saw corn threshed on the threshing floor, and the beast, unmuzzled, who treadeth out the corn, is still the ox, with occasional help only from horses, donkeys, mules and even camels. I noticed one team of camels and oxen, and another of camels and donkeys. The plough is a wooden prong on Virgil's model. The grapes are trodden to make sweet, almost unalcoholic wine of a dark-brown muddy colour. But this is for Mass and English officers. The drink of the country is *Arak*, grape spirit distilled, and flavoured with aniseed, taken, mixed with very little water, as an apéritif.

Industry is unknown, except in the South, where there are silk factories near Brummana. For the rest it is the Middle Ages again, in which even the spinning-wheel is unknown. An aged Clotho in an inn delighted me by spinning with spindle and bobbin, biting off the thread, in the very manner described by the Roman poet.

There are good lignite mines between Mayrouba and Kartaba, exploited (need I say?) by the Germans in the last war. I saw one outcrop seam of ten feet still worked with pick and shovel by about twenty-five operatives, who greeted me boisterously and pressed me to share their meal.

Irrigation is being re-started after a disastrous earthquake at the end of the Roman Empire. The Nahr Ibrahim (the famous river of Adonis) has begun to be used for this purpose ; but mainly the abundance of natural water runs to waste.

One of the main crops is hashish, in the growing of which the local clergy are as much involved as any other section of the community. The people are not addicts but export it to Egypt. Of course the crop is illegal, but it is grown fairly openly, camouflaged, if near a path, in a field of potatoes or Indian corn. At the time I passed, con-

"I found myself in a new world, or rather a very old one". A shepherd leads his flock, between Beskinta and Sannin

Captain Quintin Hogg

Captain Quintin Hogg

The monastery 'at Tannourin, standing in Christian country with the familiar churches of Catholic Europe. Agriculture, with terraces and vines, reflects medieval Europe

cealment was no longer possible as the larger plants were shoulder high. The British, in cooperation with the local *gendarmerie*, were busy destroying the crop, to the annoyance of the inhabitants. Hashish is, however, regarded rather as a speculation, and though lamentations were loud, genuine ill-feeling was not much marked.

At Beskinta I stopped an extra day in order to climb the local Matterhorn, the Sannin, about eight thousand feet high ; to climb it is considered a feat of great endurance by the inhabitants, who, like most mountain people, have not acquired a love for the heights by living among them. I was assured at the café at the foot that the record for the climb was three hours, that most who tried it failed to get to the summit, that some had lost their way and died of exposure or had their throats slit by Moslems. The peak was, in fact, like a huge Scawfell Pike, a mess of scree and rubble, easily reached by goat track ; and it took me, in bad training, one hour and twenty minutes. On the top was a ski hut built by the French, and a kindly old Mohammedan shepherd who asked me for the latest news of the war.

From Beskinta, George and I made our way to Mayrouba, missing the best of the journey by bad map-reading. The show piece there is the Pont Naturel—a natural bridge of rock passing sixty feet over a stream. There are three beautiful springs—Naba el Asa (the spring of honey), Naba el Laban (the spring of curds) and Naba el Hadid (the spring of iron), from the colour of the pebbles at the bottom. The food is primitive, but delicious. Bread in loaves about the circumference of a small umbrella and the thickness of a double sheet of *The Times*. You are not considered much of a fellow unless you can eat more than one. The local champion is an Orthodox priest credited with a minimum of twenty per meal. Laban, the curds of our ancestors, tomatoes, peach jam, soup, platefuls of warm plum jam, *Kibbeh* (savoury meat and rice), beans. For breakfast the same, and the same for lunch.

From Mayrouba the route lay by the lignite mines and the Jebel el Hadid, where the Emirs mined iron, to Afka, the ancient spring of Adonis with the ruins of the ancient temple.

Never was there a more beautiful spot. It lies at the head of the valley of the Nahr Ibrahim and is reached after a tremendous trek across barren country strewn with the boulders and débris of an earthquake which took place, they told me, some fifty years back. Suddenly, round a bend, is the grotto, from which pours not a spring but an underground torrent with freshets, the whole flowing under an old bridge into a magnificent basin of clear blue water. Here is a holy place indeed and, with primitive glee, I jumped in, naked, to find it as cold as glacier water with a current that swept me down-stream. I kicked back to the bank shivering, to find a puzzled George and an irritated donkeyman preparing lunch by the ruins of the temple.

The true Spring of Adonis is not the torrent which leaps from the grotto, but a subsidiary spring coming from the culvert which lies by the temple. It is choked with pebbles but still flows clear and good.

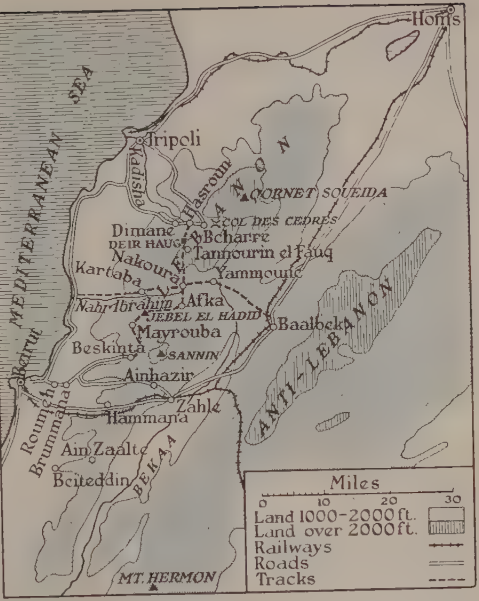
The temple itself lies at the junction of four pack roads: from the Bekaa, from the south, from the west along the southern bank by which I had come, and from the west along the northern bank leading to Nakoura and Kartaba, the largest village in the locality. It has been destroyed by earthquake, and has fallen in on itself, leaving the uneasy impression that there is something still inside. This impression is shared by the natives. They say it is a Church of the Virgin Mary, and that at one time pilgrims came to bring there all manner of treasure, which remains still within, buried beneath tons of fallen masonry. From the ruins springs a huge old fig tree, and it was only after lunch that I noticed hanging from it a score or more of tiny garments in front of an archway in which hangs a crude print of the Virgin and Child.

This so intrigued me that I asked a passing cowherd who had shared our meal what the meaning was. He replied that there was a powerful spirit in the place and that the water had magical properties. If you drank of it it cured your ailments, and if you were a woman, ensured your fertility. From all over the world, he said, even from New York, women came to drink the water, and when the baby was born they hung its clothes on the boughs of the fig tree.

So, though their temple is waste and their very names forgotten, and their sanctuary invaded by the symbols of an alien faith, Venus and her shepherd love still claim their votaries, and the humble offerings of simple folk still testify to man's unconquerable faith in the miraculous.

From Afka I came to Kartaba in the late evening, past the ruins of the old palace of the patriarchs of the country, called locally the Blue Stones. In the dark we stumbled into an inn, deserving fame alike for the kindness of its hosts and its grisly sanitary arrangements. Next morning, to Mass at the Maronite church. The vestments and ornaments were purely Roman, even to a statue of the Little Flower by the altar. The language was Syriac, the gospels clearly read in classical Arabic.

I fled from Kartaba in the early morning—to avoid the miscellaneous throng of small boys and not so small girls to whom I had appeared as a sort of inverted Amy Johnson—up to the high pasture of Laklouk with a Moslem shrine and a nomad community of shepherds.



There I found my first British soldier since my departure and almost my first reminder of the war. He was a sergeant in the Field Security Police, grappling with the local *gendarmerie* and the hashish crop, and superbly mounted on a Syrian Barb stallion. We inspected the hashish, not yet destroyed, and then I went on alone to the enchanting village of Tannourin el Fauq (Upper Tannourin) and the monastery of Deir Haug.

The monks retain the medieval tradition of hospitality. Late lunch, the guest-chamber of honour, a specially permitted interview with the bearded Father Superior, a listen-in to the Turkish-Arabic broadcast from Ankara were my lot. I was asked many questions about the outcome of the war.

Early next morning I continued my journey over a high pass into the Kadisha valley past the cedars of Tannourin. It is commonly supposed that the patch known as " the cedars of the Lord " (Arz er Rab) above the Kadisha falls is the only large group of cedars left in the Lebanon. This is not so. Apart from individual trees and a smaller clump near Ain Zaalte, the cedars of Tannourin present a whole forest of young trees, about 10,000 in all, I was told.

On reaching the Kadisha valley I was in civilization again. I followed the motor road

H. J. Shepstone

H. J. Shepstone

to Hasroun past the Maronite Patriarch's splendid new palace at Dimane, to the accompaniment of "*Bakshish!*" and "Hullo, George", from the small boys. (The latter greeting, which referred to myself and not to my donkey, was taught to all the Arab children between Amriya and Aleppo by the Australian Imperial Force in the early days of the war.)

At Hasroun George developed a gall, which necessitated a day's rest and some gruesome veterinary operations outside the chemist's shop in the main street, which collected a crowd.

Beyond Hasroun we proceeded by road to Bcharre and thence by track via the Kadisha grotto to the Cedars. I had expected to be disappointed by the cedars. Many travellers are who see them from above. They consist of a small clump of about four hundred trees —but what trees! Of immemorial age and gigantic girth, they soar into the sky. The best way to see them is to lie on your back underneath. Then you are in the vast primeval forest that once covered the land.

These very trees, naturally sown, filling the air with delicious fragrance, made the ships of Phoenicia, which sailed to Carthage, to Spain, to Britain and even round the Cape (if we are to believe Herodotus), which

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H. J. Shepstone

fought at Salamis; of this wood were built the temples of Ra and Amon in Egypt, of Hadad at Damascus, of Zeus Helios at Baalbek, and even of Jehovah himself at Jerusalem. Yet the forests of the Lebanon were not depleted. It was the Christian Emirs, driven by the necessity of offering tribute to the Turks, who used the timber in their iron furnaces and thus finally exterminated all but a few of the trees which once glorified the hills.

There is a little chapel in the clump, kept by a Priest, who offered to say Mass for me for one pound Syrian (about 2s. 6d.).

At the head of the Kadisha valley lies the Col des Cèdres, which forms the easiest pass of this part of the range. North of the valley the great peaks of the Lebanon mountains culminate in Qornet Soueida, of about 10,000 feet.

From the Col the whole Bekaa lay spread out in the clear morning light. Baalbek opposite and on the other side of the valley lay like a large dark star where the dark-green trees contrasted with the baked earth. To the south-east, Mount Hermon (Jebel esh Sheikh) towered to nearly 10,000 feet. I could see the road leading north to Homs and Aleppo and south to Deraa, Hule, Palestine and Tiberias, and, as a facetious military signpost observed: "To the Western Desert". At the foot was Yammoune, a little Roman watering-place famous for the small fish which abound in its lake and with Roman ruins to remind the traveller of a time when the whole Bekaa was fertile and prosperous.

The hard part of the journey was now to begin. Down to Yammoune, a hasty lunch of bully and biscuit, and a long trek on in the steep foot-holes of the eastern side of the Lebanon, past wild tribes whose girls fled at the sight of a uniform with terrorized cries, and whose men were armed. Lost, tired and hungry we stumbled, late at night, into an unknown Arab village amid loud barkings of dogs and cries from us of "*Ya Sahib el Beit!*" We were finally shown to the house of the Moslem Mukhtar, on the walls of whose parlour hung a portrait bearing a resemblance to the Mufti of Jerusalem.

We were hospitably received, food was brought, mattresses and cushions spread, boys and young men assembled, and we ate greedily while hens ran in and out, and girls giggled and squeaked behind the door.

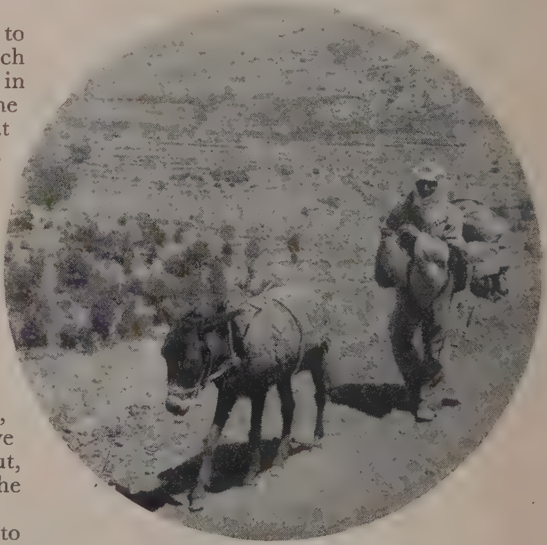
Early next morning we tramped on to Zahle, a modern health resort. Here, at the Grand Hotel, I revelled in the luxury of clean sheets and modern comforts in preparation for the last stage of my journey over the pass by Ainhazir, behind the crest of Hammana, and thence down a long spur into the wadi that separates the Brummana ridge from the main massif.

George now gave up the ghost. In the middle of a camp of negroes of the French command he lay down and pretended to be dead. We cajoled, we watered, we fed our last ration biscuits, and he staggered to his feet. But not for long. His unaccustomed labours had been too much for him. We carried the sack, the valise, the sleeping-bag. I pulled and the donkeyman pushed and shouted: "*Yuqsuf Umrak!*" (Damn your eyes! in effect) in Arabic. But he lay down again twice. At length, at Kfar Selouane, where there was a *gendarmerie* post, I said good-bye to George and his keeper, packed them both off in a truck, and finished the last ten miles of the journey on foot. George was contentedly munching *tibn* when I got back.

And so home to the routine of military life in a formation H.Q.

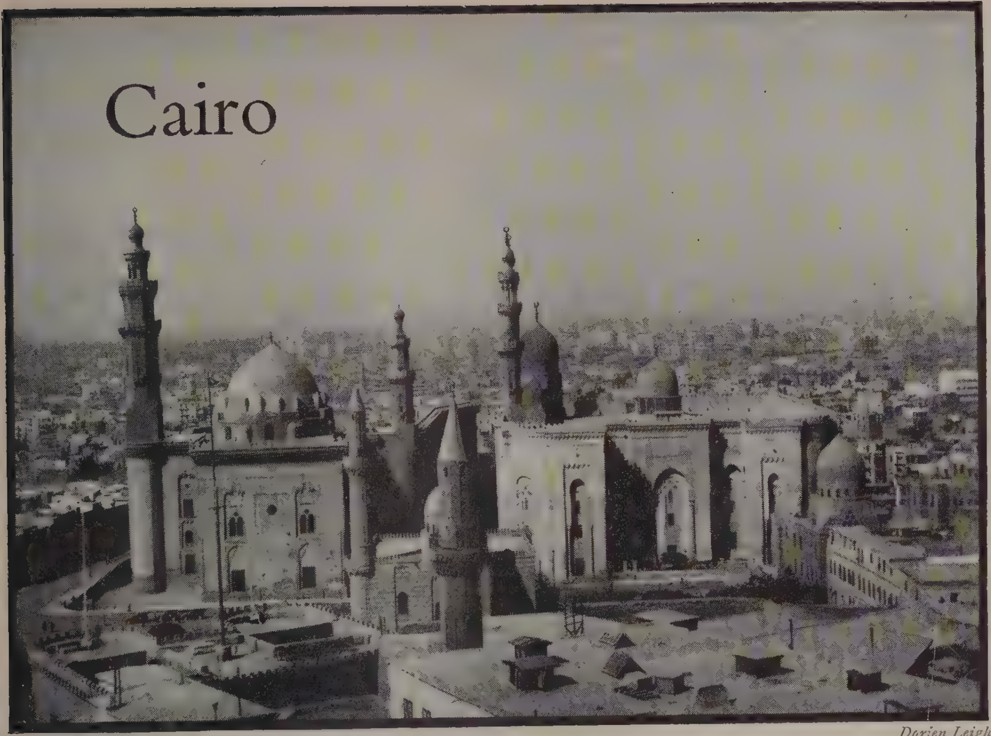
There can be no doubt that to those who prefer a walking holiday to the fleshpots of Cairo and Alexandria, of Jerusalem, Haifa and Tel Aviv, or even to the more rural pleasures of Tiberias, or the Gallicized luxury of Beirut, the hills of the Lebanon offer an unforgettable change from the tedium and terror of modern war.

Captain Quintin Hogg



We carry 'George's' burdens for him

Cairo



Dorien Leigh

by MARY ROWLATT

Last November Miss Rowlatt described for us how progress and modern times are affecting the women of Egypt. In this article she goes back into the past, to the historical background that gives the Cairo of today its character and atmosphere

Most people can conjure up a more or less accurate vision of the cities of ancient Egypt, and the capital of modern Egypt is well known, by hearsay or experience, to almost everyone. But in between the two eras lies a long gap. What sort of a Cairo linked the city of the Pharaohs with the city of Farouk?

In the days of the Old Empire, Memphis was the city which stood on the Nile banks not far from where modern Cairo now is. It was a flourishing metropolis in the very earliest days of Ancient Egypt. Later on its importance began to wane, for Thebes (the modern Luxor) became Egypt's capital, and Memphis diminished in size and importance until, when Egypt fell into the hands of Rome, a new centre was built on the east bank of the Nile.

A giant broken statue, lying prone among the palms, and an alabaster sphinx with children and goats jumping on and off it—these are almost all that remain of Memphis today; but enough of the Roman fortress stands to give an idea of its buildings. A great bastioned gate stands hidden away among the small dwellings of Coptic Old Cairo. You have to descend to it, as the level of the ground has risen considerably. Antiquarians reckon that a rise of a foot each century, of rubbish and dust beaten down into the highway, is a fairly accurate estimate.

The sounds and cries of the present day grow faint as you stand under this great, silent gateway. Cairo has other gates almost as ancient and other relics far older, but they appear to be alive, as if still playing a vital part in the character of modern Cairo. Was it because the Romans took much and gave little that there is a deadness about the fortress they have left?

These fortifications built for defence saw hardly a blow struck. In view of the increased decadence of the Byzantines it is perhaps not surprising that Cairo succumbed completely, in A.D. 641, to the next invaders, virile men of the desert to whom austerity had not become a mere word but was indeed a quality of life. Their general, Amr ibn Aas, founded a city just south of the Roman gates. His pitched camp formed the nucleus of it. This is now ruined, in open land; but wandering over the site it is easy to picture its past. Bits of ceramic, fragments of textiles and old coins lie about for curious travellers to examine. The first mosque in Egypt was built by Ibn Aas, and there it stands today — a large square enclosure cloistered by many varied columns.

So Egypt became an Arab province, ruled by a military governor under authority from Baghdad for about 200 years, when a young, high-handed governor called Ahmed ibn Touloun arrived. Bit by bit he gathered power and popularity till he was able to cut himself off from Baghdad, proclaim himself an independent ruler and found a hereditary dynasty. Immediately he built a magnificent mosque on the high ground of el Qatai to the north-east of Fustat. Today, as you approach his mosque, still one of the finest Arab monuments in the world, its high fortress-like walls soar above the surrounding dwellings, for it stands in a very poor quarter of Cairo. Steps lead you up and through two gateways into an arcade which runs round all sides of a vast square. The arches are carried on piers, three deep on three sides, but on the side towards Mecca they are six deep.

The courtyard is usually in blazing sun, but your eye, as it travels down the arches, sees them cross and recross each other in ever-deepening shadow into the furthest distance. The soffits of these arches are carved in stucco with intricate geometrical designs. They were only discovered a few years ago under many layers of whitewash. In some places there was only a fraction of the pattern left, but modern Egyptian workmen deduced the whole from the portion that remained and reconstructed it with remarkable ability.

* * *

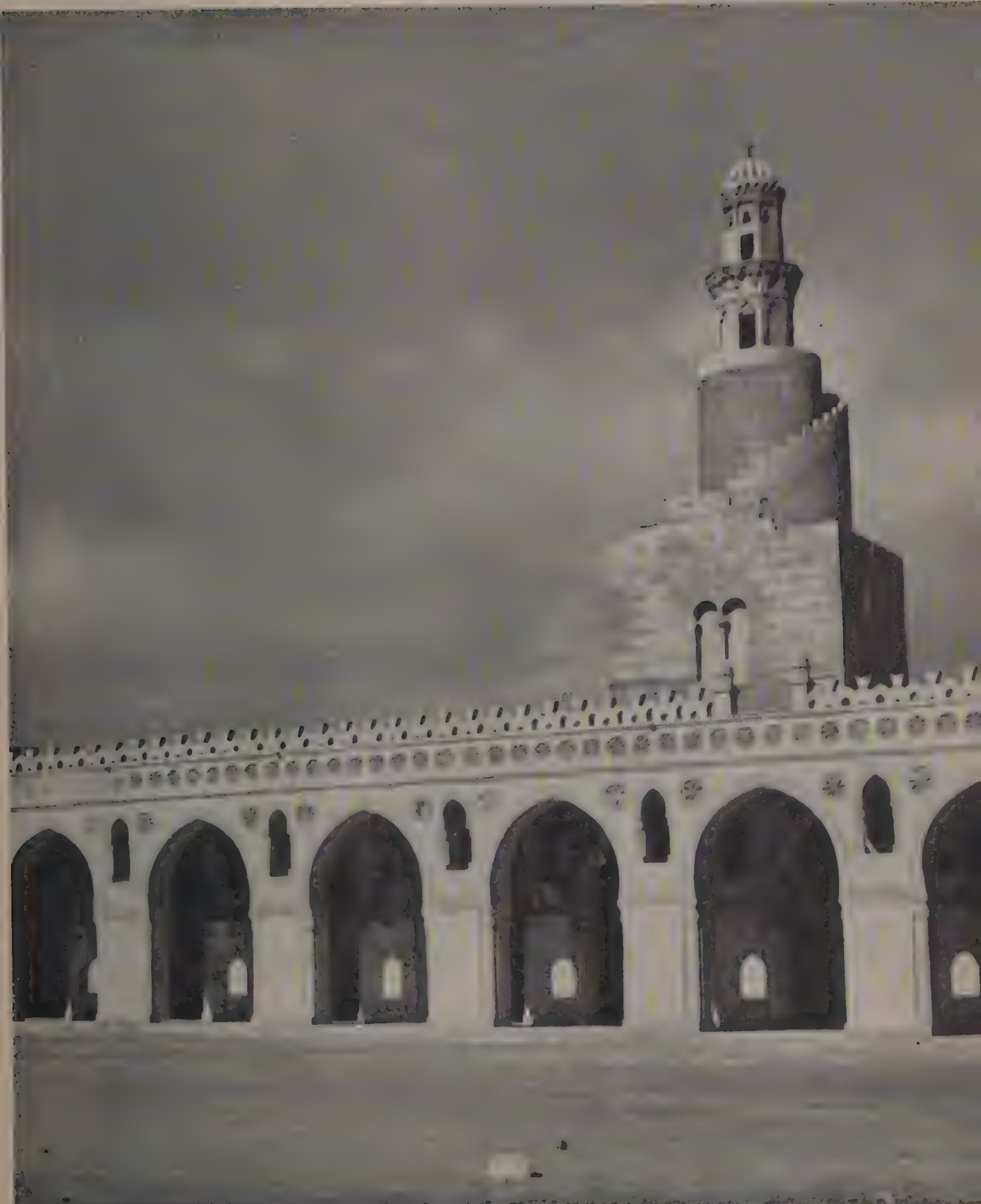
One of the most fascinating things about Cairo today is that with comparatively little knowledge you can recognize roughly the date and origins of the innumerable ancient buildings in the old quarters. The type and arrangement of inscriptions is one sure guide. For instance, the angular Cufic script was in use until Saladin replaced it with the flowing Nashki script in the 12th century. The spidery Turkish hand was seen only after the Turkish invasion of 1517. There was a fashion at one time of having inscriptions in a series of ornamental brackets. This is found near the end of the 13th century and the beginning of the 14th. There is an interesting wooden inscription running round part of the interior of Ibn Touloun's mosque. It is in Cufic and dates from the foundation. The ground level of a building, as I have said earlier, also shows its date. As you walk down one of the narrow crowded alleys you may see a mosque some five feet below the road level; it will almost certainly be about 500 years old. A bit further on you may come to a building with an eighteen-inch drop to it: this will be an early 19th-century structure, and so on.

* * *

The 10th century saw an important new phase in the development of the city we now call Cairo. A Fatimite ruler invaded Egypt from the west and founded a city somewhat to the north of Ibn Touloun's centre. Astrological omen carried great weight in those days. Mars, known to the Arabs as the Conqueror of the Heavens, was in the ascendancy, so the new city was named the Conqueror: *el Kahira*, hence the word Cairo. This Fatimite era was one of lavish living, and of immense wealth and power which alternated with periods of poverty and starvation.

Nasir-i-Khusraw, a famous Persian traveller of the 11th century, has given a first-hand description of Fatimite Cairo. Many thousands of people lived in the royal palace and the number of palace servants ran into five figures. He saw great galleys on the Nile. The streets were fine and well illuminated at night. He describes the young ruler of the time as being simply dressed and clean-shaven. Nasir-i-Khusraw saw him riding by on a mule to some festival, and the ceremonial umbrella carried over his head was encrusted with jewels.

It is interesting to note how the people's morale and character seemed to stand firm through the first stages of wealth. Goods were sold at fixed prices and any shopkeeper discovered cheating was taken round the streets on a camel, ringing a bell and declaring to all passers-by in what matter he had been dishonest. But somewhat later we get descriptions of drinking bouts with amber cups, of immense banquets off gold plate, of fabulous jewelled clothing, of chess played with gold and silver pawns, and of a ruler out of touch with his people, idling in his palace and scoffing at the faith of his fathers. After this, with deadly speed came the crash, and the Caliph's own family had



Toni Muir

When Ibn Touloun became Governor of Cairo in the 9th century A.D. his first act was to build a magnificent mosque, still one of the finest Arab monuments in the world. This view shows one side of the courtyard

Oscar Marcus

Oscar Marcus

(Left) *A busy sunlit alley seen from the upper window of a dark, cool interior.* (Right) *El Azhar University, founded 1000 years ago, to which students still come from every corner of the world. All wear time-honoured robes as seen in this photograph*

to move to Baghdad to escape starvation.

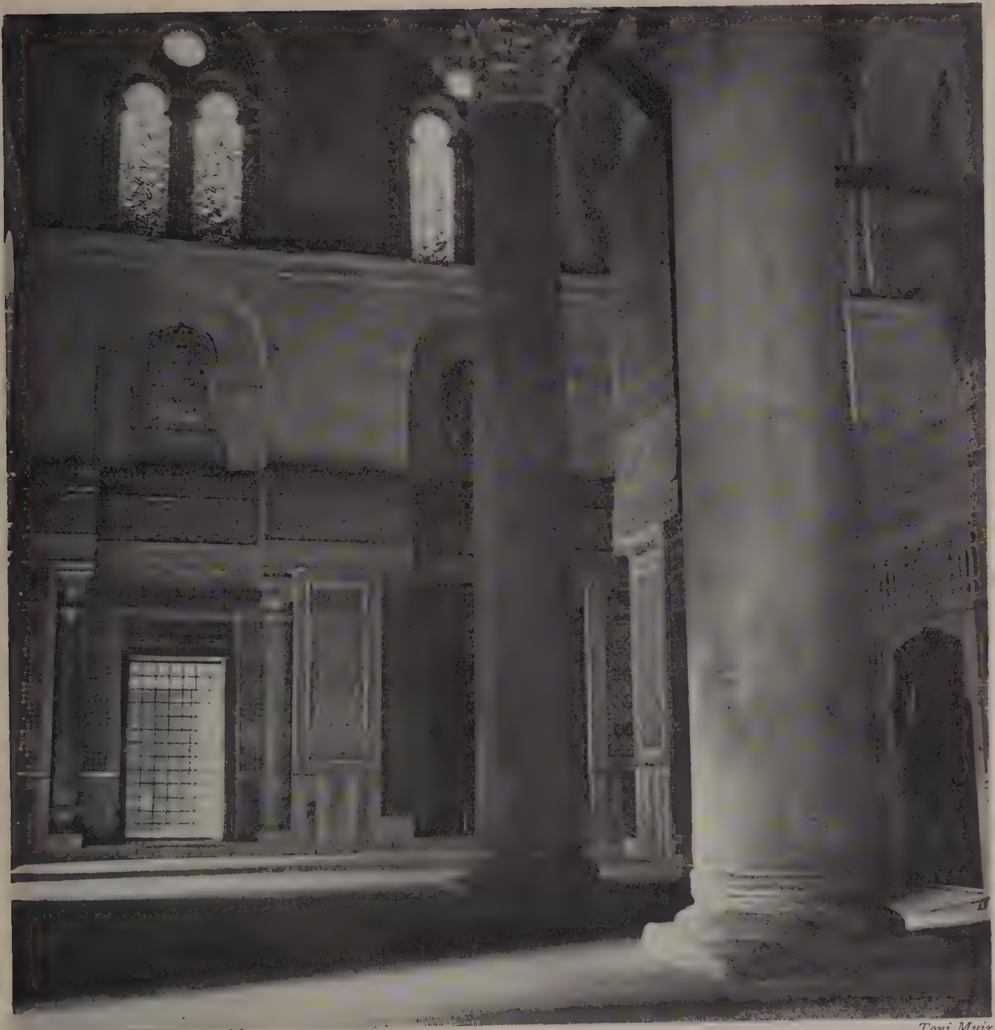
No trace is left today of the great Fatimite palaces, but the name on a certain narrow highway of Cairo's old city proudly states that this is "The Street Between the Two Palaces".

* * *

During this era el Azhar University was founded. It has been the heart of Islamic learning for just on 1000 years. The establishment remained almost unchanged from its foundation till a few decades ago, when some of the curricula were altered. Students still come from every corner of the world. You may pass a slant-eyed young man from Central Asia, a small-limbed neat Javanese and a dark Abyssinian, in the course of a few minutes. As you step across the threshold you might be back in almost any century—the 18th, the 15th, the 10th. Students and professors wear long robes and turbans. The students sit cross-legged on the ground in groups, with the lecturer, also cross-legged, on a bench in the centre, as he expounds some point of jurisprudence or theology. But any outsider who thinks that this scene is peopled by archaic figures somehow left behind by a remote past is highly mistaken. These men wield great power in the modern Islamic world.

* * *

One of the most remarkable relics of this period is part of the encircling wall of Cairo with three great gates, built for a Fatimite ruler between 1087 and 1091, which still stand in all their strength. If you are sufficiently enterprising to visit them, an aged individual will light the stump of a candle in a little lantern and beckon you on into the darkest of winding stairways, which leads out on top of the Gate of Victories. Though built several years before the first Crusade left Europe, these gates have many similar features to the great crusading castles of Syria, and of Europe too, which show the extent to which the Crusaders borrowed from the architecture they found in the countries they entered. Standing above this magnificent great gate you can look down, through the holes made for boiling oil and missiles,



Toni Muir

The 13th-century mausoleum of Galaoun, a famous Mameluke Sultan of Egypt, and one of the Crusaders' most formidable opponents. The huge columns are of granite; the inscriptions from the Koran round the wall are in brackets and circles common to the period; below them are coloured marble mosaics

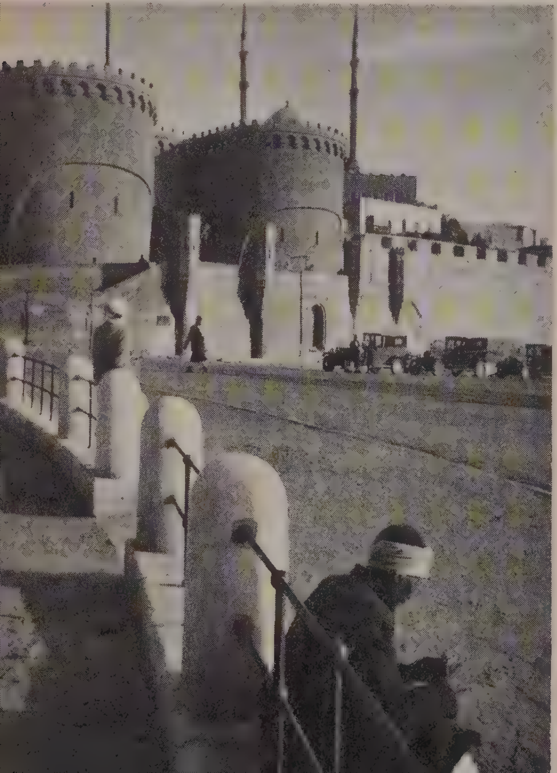
onto the noisy Cairene passing in and out below. He shakes his vegetables under the nose of a prospective buyer, he shouts out the beauties of his cool drinks, or just tippets along into the city on his little donkey.

A pace or two further on the old man who is guiding you will lead you down some steps into a pitch-black passage, the internal gallery of the wall itself. Before entering, it is interesting to notice two blocks of stone built into the masonry, carved with ancient Egyptian figures and animals in delicate relief. These medieval builders of Cairo often made use of strong material lying about, already quarried, ornamented and used many hundreds of years before. It gives you quite a start to see a fat little hippopotamus embedded in this austere military architecture. You cannot see an inch without the old man's candle, but by its light you can just make out the beautiful masonry of this *chemin de ronde*. The passage is about six feet wide and considerably higher. It has a convex ceiling and before the days of artillery was impregnable indeed. Here and there it is lit by small apertures in the roof and slits to shoot through; occasionally it widens into silent guard-rooms. The tread of your feet is muffled by the thick layer of dust; it is eerie and mysterious and the old man makes the most of it. He points his bony finger at a dark patch of ordinary damp on the wall and murmurs in Arabic the one word, "Blood". After a bit you see the light of day again and emerge up some steps onto the wall above the gallery. Some of the building on the top here dates from Napoleon's campaign in Egypt. He is responsible for the towers at intervals along the wall bearing the names of his officers, "Tour Corbin", "Tour Milhaud", etc., inscribed upon them. Napoleon, too, built the battlements facing into the town, for he was as apprehensive of insurrection from within as of siege from without. Near here a spiral stone staircase leads down to the other gate,—the Gate of Conquests. This is one of the most spacious and well-built spiral ways in military architecture anywhere in the world.

Oscar Marcus

(Above) *Daily mixture of ancient and modern in a Cairo street.* (Below) *Gates leading up to the Citadel, first fortified by Saladin in the 12th century. It has held troops from that time to this: British and Egyptian soldiers are both garrisoned there today*

Dorien Leigh



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The next important development of Cairo after the Fatimite era took place in the 12th century, and the man responsible for it is almost as well known in the West as in the East—Saladin. He it was who first fortified the heights overlooking Cairo from the east, now known as the Citadel. It has been a garrison for troops of one sort or another from his time until our own, without a break. Today, British and Egyptian soldiers are both quartered there. The 12th-century fortifications, the later Turkish ones, and what modern masonry there is, are all one whole. The British Tommy plays football there, beside a wall built possibly by his ancestors 800 years ago, for Saladin used prisoners of war, captured in his fights against the Crusaders, to build these ramparts.

Sometime in the 12th century, Fostat—Amr's 7th-century town—was abandoned. The heart of Cairo had moved with Ibn Touloun and the Fatimites to the north and to the east, leaving Fostat as an outlying part of the city. When the Crusaders' advance looked menacing to Cairo, Fostat was evacuated and deliberately burnt—an early instance of the scorched earth policy.

By this time Cairo had had some redoubtable rulers, evil and good, from Hakim, who terrified his subjects by roaming the narrow streets at sundown in disguise to see if his insane and cruel laws were being carried out, to the saintly Sultan Saleh, who often sat in the market-place in simple clothes making baskets while he addressed the passers-by on spiritual matters. This Sultan was one of the last of Saladin's family. The next rulers were from the famous Mameluke dynasties. Their empire stretched from Cairo up beyond Aleppo, east far across the Jordan and southwards into Arabia. Cairo was always the primary capital and Damascus a secondary one. These two cities were linked by an efficient pigeon post service which took letters from one town to the other in a few days.

The whole empire was traversed by a vast system of post horses. Sultan Beybars, one of the most outstanding Mamelukes, boasted that he could play polo in his two capitals in the same week, which was indeed an amazing feat of endurance and horsemanship. In cafés and meeting-places of Cairo today, storytellers still recount to rapt audiences tales of this popular hero's might.

Sultan followed Sultan in quick succession. Many achieved power through a chain of dramatic murders; few died in their beds. They administered their large empire sometimes with a rough justice and foresight, but always with vigour. At the same time, they led their armies in major campaigns against the Crusaders and the Tartars. The old Arab chroniclers give graphic descriptions of this warfare and they show how the common people of Cairo followed its fortunes with enthusiasm. The populace was kept well posted with news. One historian describes the scene in Cairo at a moment when the news seemed bad, though victory was gained in the end:

> The people put extreme zeal into their prayers [he says] and all applied themselves to reciting the Koran. Gathered together in the mosques they cried aloud and gave themselves up to fervent prayer. That same day pigeons arrived with perfumed wings, bearing letters also perfumed announcing the great news of the Tartar defeat. Postal runners arrived as well, with despatches confirming this news. Loud music was heard: Cairo and the Fort of the Mountain were imposingly decorated and an order transmitted to the different provinces prescribed the same signs of rejoicing.

In addition to their intense preoccupation with war, the Sultans and the leading men of Cairo often managed to accumulate vast wealth by fair means or foul. They spent a great deal of it in embellishing their capital city with a succession of splendid monuments, many hundreds of which contribute to form the glory of Cairo today.

During these centuries the city was a strange mixture of barbarism and culture, of savagery and civilization. A standard was set in design and workmanship which has probably never been surpassed. The joy of beautiful things beautifully made speaks clearly from the wealth of objects left for our enjoyment today, as apparent in small domestic things as in work done for special purposes. For instance, the simple earthenware water jug of those days (almost the same as the jugs still used) had a little filter formed in the neck to prevent things from falling in and polluting the water. The filter is made of earthenware and a few holes pierced in it would have served the purpose adequately; but the designer made the most lovely intricate patterns in the strainer which, being in the neck of the jar, was hardly seen at all. Another instance of this delight in lovely things for their own sake is a certain beautifully worked brass box with silver and copper inlay. A strip of this silver had come away and, behold, the workman had chiselled a charming little pattern inside the groove he had made to hold the silver, which, as far as he knew, would never be seen again by anyone as soon as he had hammered the metal into place on top of it. The technique and love of making beautiful things still lives in many an old Cairo artisan of today and is dormant even in the younger ones. In some instances it is being developed, though sometimes it is taking on a warped and unreal expression.

The Mameluke period never produced, in architecture or in fine art, a style comparable to the overflowing Baroque of Europe. Whether this would have developed later it is impossible to say, for a great flood from the north was to break on Cairo under which the Mameluke power and artistry were to be completely and suddenly submerged.

The Ottoman Turks who had captured Constantinople in 1453 were now flooding south through Syria. Cairo rushed to the defence of its invaded provinces. A great battle was fought but the odds went against the Egyptians: the Mameluke cavalry were broken and overrun. News now reached the capital that the Turks were advancing with that morale-destroying new weapon, gunpowder and cannon. Cairo immediately hired some cannon from the Republic of Venice at an exorbitant price. There was no time for bargaining, but unfortunately neither was there time for learning how to work the cannon properly. In March 1517

Toni Muir

(Above) *The old river boats which bring merchandise from the interior to the capital, to unload it on the wharves of ancient Cairo.* (Opposite) *The 14th-century tomb-mosque of one of the Mameluke rulers of Egypt before the Turkish conquest*

the last Mameluke hung, a limp body, over one of the great Fatimite gates and Cairo settled down to hundreds of years as a comparatively poor and uninspired town under Turkish domination, ruled by a governor sent from Constantinople. About as many mosques of note remain to us from the next 300 years as from any thirty years of Mameluke rule.

The special architectural legacy of Turkish times is several fine specimens of domestic architecture. Up to then, all houses and palaces seem to have been pulled down and rebuilt, or lost in earthquakes or fires. But from the 16th century onwards we have at least a few old houses left. They are mostly dwellings of the well-to-do merchant type of owner. They are large and rambling, for Eastern families all lived under one roof; and the word 'family' was taken in its widest sense. The sons usually brought their brides back to the one house. Orphaned cousins, widowed aunts and old retainers, all made their home together. The building usually

Toni Muir

ran round four sides of an open square. Of such is the 18th-century house of es-Shemy. The courtyard is a garden of orange trees, a tall date palm and coloured creepers. The main doorway of the house, giving in from the street, is almost fortress-like. A heavy door opens onto a vaulted elbow entrance. This is partly for the sake of privacy, for when the door is opened you still cannot see into the courtyard, and partly to make it easier to defend against marauding bands of robbers which were often a great menace in those days.

As you enter the courtyard an open loggia faces you on the opposite side. Visitors were received here, and tucking up their feet under them on high wooden seats, would discuss the affairs of the day over little cups of bitter coffee. There is another loggia on the first floor facing north. This is constructed specially for summer use, to catch any north breezes that there may be, and is also used for the reception of male guests. When such visitors are about, the women are never seen; but nevertheless they really have the whip

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hand of the men, for behind their *mushrabia* wooden screen windows they can see and hear all that goes on in the courtyard and both loggias without being detected themselves. The indoor reception rooms have delightful little coloured marble fountains of trickling water, for coolness in summer. These rooms were heated in winter by decorative copper or brass charcoal braziers.

During these Turkish centuries life in Cairo must have been in a minor key compared with that of previous eras; but it was not without colour. The varied expressions of Moslem religion continued through these drab years. Circumcisions or weddings were occasions for processions through the streets. Jugglers and dancers formed part of these processions, and as they wound slowly along passers-by were encouraged to put down their goods and chattels, stop what they were doing and join in the fun and gaiety. Each saint's day of note was celebrated by a *moulid* or fair which included shadow plays, performing animals, stalls of sugar sweets and so on. *Zikrs* were held in the evening at these fairs. They are religious ceremonies which consist mainly in repeating the name of God in unison over and over again, with a bowing of the body until a type of trance is reached. Moulids and zikrs are held today and festive processions too, but in Cairo the latter have to conform to police regulations and much of the picturesqueness has had to go. However, the spirit of good-humour and simple faith remain amazingly alive.

* * *

An early 19th-century writer, Edward Lane, gives a fascinating description of one old ceremony whose origins are lost in antiquity—the cutting of the Khalig dam. The Khalig was a canal that entered Cairo from the Nile and traversed most of the city. It was only filled with water when the Nile was high. Until the river reached the required height it was kept out of the canal by a dam. The Khalig was finally filled in some seventy years ago, owing to its insanitary condition when the Nile was low. It is now a roadway.

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(Opposite) *One of Cairo's famous fashionable hotels; a fine opera house faces it;* (above) *scene in the ancient copper bazaar just ten-minutes' walk away. The lemonade seller is equally at home in both quarters. His drinks are as popular with the modernized young Egyptian in European suit as with the medieval-looking craftsman*

The mixture of centuries in Cairo today is indeed bewildering. A five-minutes' walk will transport you from an Arabian Nights city to a pre-war Paris. But no sooner have you adjusted yourself than you realize that the situation is more complicated still. The medieval gentleman in flowing robes with a white beard is listening to the wireless as he hammers out a bracelet of beaten gold. A few minutes later, as you wait in your taxi for the red light to turn, via amber, to green, you realize that the individual beside you in the block, also eyeing the lights, sits astride a camel and wears a long bright blue cotton gown or *galabieh.*

Living Space for All

by PROFESSOR E. G. R. TAYLOR, D.Sc.

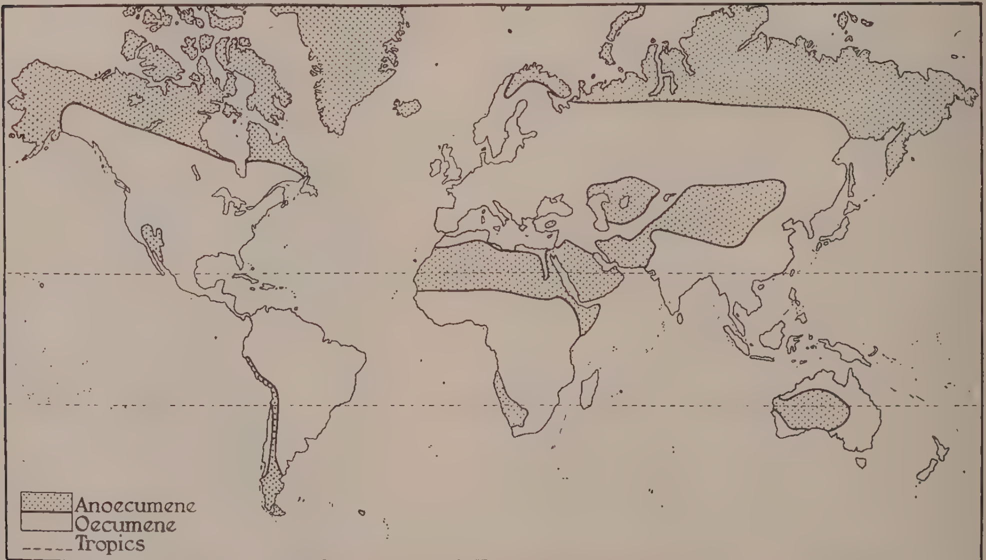
In less than a century and a half the population of the world has more than trebled. This is a startling fact and one that might well give rise to misgivings. Supposing such a rate of increase to persist, how could the vast multitudes be fed? For that ultimately is what living space means—not space in which to work and sleep and eat and play, but feeding space, crop space. To put the question more precisely: will there be sufficient agriculturally productive land for our myriad grandchildren and great-grandchildren, or will famine step in to apply the brake to reproduction?

German geographers have declared this question to be the most pressing problem of human geography and have examined it with great care. Their estimates of the number of human souls who will 'fill' the world vary from 6000 to 8000 millions, even the latter well under a fourfold increase. Moreover, to find room for this increase they picture vast throngs dwelling in those tropical and sub-tropical spaces from which they believe themselves to have been wrongfully debarred. How are such calculations made? And what is their value?

The word 'space' itself has different meanings as used by different thinkers and observers. In its grandest aspect Space implies the Universe, all but the minutest fraction of which we know only indirectly, through the researches of astronomers and mathematicians. Of much less size is the space we can actually explore, still not in our own persons, but by sending instruments up into the skies on unmanned balloons, or down into the ocean abysses on slender cables, or by driving boring apparatus deep into the earth. Next there is the space which can be reached by aeroplane, by submarine, by the mine-shaft—perhaps ten miles up and well under a mile down. But still this is not living space, which for humanity at large is the land surface of the earth upon which he erects his dwelling and from which he gathers his food, although the supplementary sea harvest should not be forgotten.

The area of the land surface is about fifty-five million square miles, or 34,200 million acres, but it is no matter of simple arithmetic to turn this into living space. What do we mean by *living*? Is it to be at a bare subsistence level, or do we presuppose that standard of nutrition, spelling radiant health and energy, which Sir John Orr has declared possible for humanity at large?

Oddly enough, it may take an enormously



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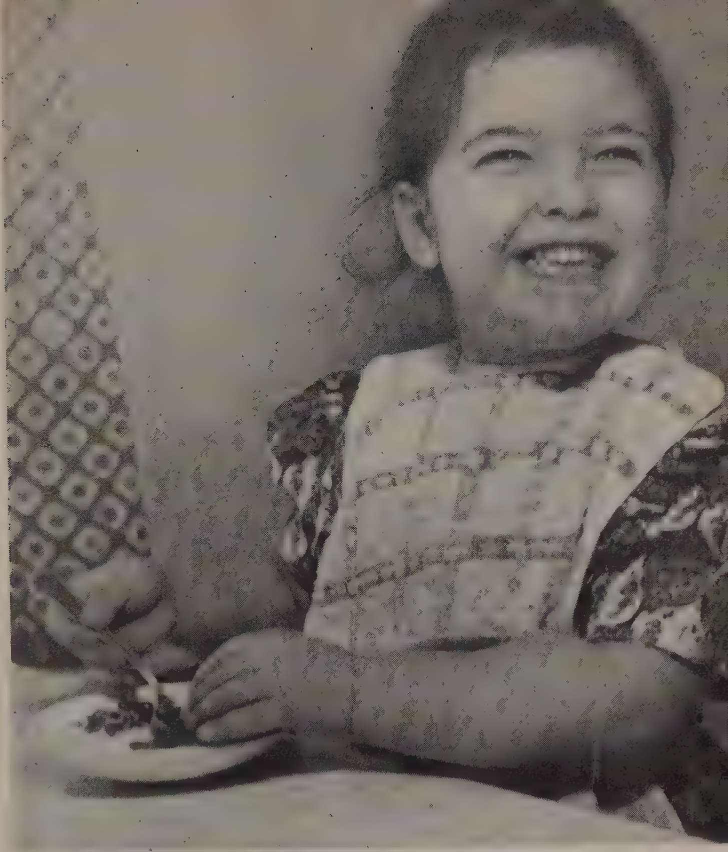

Oecumene is the old Greek name for 'living space'—represented in the map opposite by the unshaded areas. (Right) *Bright eyes and dimpled arms bear witness to good nutrition.* (Below) *His plump stomach is belied by his skinny legs. His mother knows nothing of vitamins or balanced diet.*

Paul Popper

greater acreage to support a people living from hand to mouth with starvation always round the corner than to nourish the same numbers adequately. The primitive hunter and food-gatherer, the Australian Blackfellow, for instance, would starve if confined to the ten-acre plot which under irrigation is adequate for the modern scientific farmer. Our first forefathers had as living space only the moist tropics, but the discovery of fire and of clothing for warmth (instead of merely for dignity, for ornament, for coquetry) enlarged that living space at a bound almost to the Pole. Life in the Arctic called forth all man's latent skill, as witness the wonderful craftsmanship of the Eskimo, but despite its herds of reindeer, caribou and musk ox, as pictured by Stefansson in his *Friendly Arctic*, despite Russian food-growing marvels at Dudinka and Igarka, despite even the weekly ration of margarine which we owe to schools of Antarctic whales, neither the Far North nor the Far South can be 'living space' in the truest sense of the word. Living space must provide bread-stuffs, a provision that

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(Above) *The almost naked hunter with his bow and arrows requires much more living space than an English or American farmer.* (Below) *Intensive cultivation and irrigation means a large yield of food to the acre. In spite of the date palms in the background this scene is in the Great American Desert—Arizona*

the 'never-hot' parts of the world are unable to compass.

From our fifty-five million square miles, therefore, we must deduct all those areas which, whether because they are too far from the Equator or because they are too elevated, have a mean summer temperature of less than 55° Fahrenheit, for this sets the approximate 'cold limit' to the ripening of wheat and barley. True, that such hardy food and fodder crops as oats, potatoes and hay will yield harvests in even cooler summers, but we are thinking in terms of 'good nutrition', and if we look at a map of the world's population today, we shall find that lands beyond the wheat limit are very sparsely settled indeed. It is worth remembering that the most intense winter cold does not deprive a region of its right to be termed 'living space' so long as there is, say, a five-months warm growing season for cereals. At Yakutsk in Siberia the mean temperature for the year is 18° below freezing point, but the July temperature is 67° Fahrenheit—much warmer than London.

To the 'cold limit' of living space we have also to add a 'dry limit'. It is fortunate that wheat, and even more decidedly barley, is not very exacting as regards rainfall—too much rather than too little moisture is the

danger. Nevertheless, ten inches of rain annually is their minimum demand, and as where rainfall is low it is also likely to be very irregular, with several years' drought in succession, we cannot safely count any area with under ten inches of rain as part of the oecumene (to borrow the old Greek name for 'living space'). Within the tropics, where evaporation is so much greater, the limit of successful crops is nearer fifteen inches of annual rain, and so very extensive areas must here be added to what some have termed the anoecumene, the non-living space.

Wheat disappears as a cereal crop in tropical lands, to be replaced by maize, the millets and (where water is abundant) rice. But none of these is so palatable or so nutritious as wheat, and none of these will make a loaf of bread. It is deeply significant that civilization first began, 7000 years ago, in those localities which were unique in their capacity to produce bumper surpluses of wheat—Egypt, Mesopotamia and the Indus valley. Rice was only a *pis-aller*, grown when the wheat farmers reached parts of China and India which were unsuited to the nobler cereal.

Nor should we omit to notice that wheat and wheat-flour are being increasingly imported into the tropics, notably in the West Indies and tropical South America. It is difficult to say whether the torrid zone should rate equally with the temperate zone, acre for acre, as living space. Scientists are now agreed that the so-called 'laziness' and apathy of many tropical peoples is traceable to dietary insufficiency and to chronic debilitating diseases, and startling developments might follow a dietetic and hygienic revolution in monsoon Asia.

When we suggest that a cold summer limit and a low rainfall limit can be drawn between the oecumene and the anoecumene, we do not forget that communities are to be found that flourish in the latter. But each one of these on examination is found to be exceptional. In Spitzbergen, for example, a coal-mining town and seaport has been built within 900 miles of the Pole at a spot where darkness reigns for nearly four months and

The stunted trees show how cold sets a limit to plant growth: only a few reindeer herders find living space here, although Stefansson holds out rosy hopes of a 'Friendly Arctic'

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Paul Popper

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Far Northern peoples with great climate handicaps to overcome show skill in handicrafts. These Lapp girls (left) *are weaving belts of reindeer sinew and strips of hide. Up in the high mountains* (right) *a few shepherds guard their flocks—but there is no living space here for mankind at large*

the thermometer falls more than 70° F. below freezing point every winter. In Western Australia, the mining towns of Coolgardie and Kalgoorlie (now sadly decayed) have their water piped from a distance of 380 miles, and all their food carried across the desert. In the Rocky Mountains, scientists man an observatory at 14,000 feet altitude; while La Paz, the highest city in the world, with 120,000 inhabitants, is at 12,000 feet; and there are Andean mining settlements some 5000 feet higher still. Metals, however, have always lured men into strange and even horrible places. Of greater import, because it is permanent rather than ephemeral, is the ribbon of green, affording living space for fourteen million people, which the Nile has unrolled across the desert. But the Nile valley must not be taken as typical of what the dry anoecumene can become. Irrigation can work wonders, but the water for irrigation has to be available first, and it cannot be conjured into existence.

In computing a possible world population of 8000 millions, the German geographer Penck has assumed that wherever improvement is possible, by irrigation, drainage, reclamation, forest clearing and so on, such improvement will be carried out, and hence he writes off only 4½ per cent of the globe (outside the Antarctic) as uninhabitable. Even if we add to his figure the 10 per cent deemed capable only of supplying extensive grazing grounds, which is at present occupied largely by nomads, this is a very optimistic outlook.

On the conservative side, and taking the world as it now is, Mr O. E. Baker, the American agricultural expert, writes off no less than 30 per cent as 'too dry', another 12 per cent as 'too cold', and as much as 37 per cent as uncultivable because of lack of drainage, mountainous character, jungle cover or other impediment. He calculates that a mere 11 per cent, say 3840 million acres, is under farms of one sort or another, but that another 2880 million acres might be brought into use, rather more than two-thirds as much again. This would provide for an extra 1400 million people, a figure which might well be reached in half a century if the increases of the last hundred years afford a true index.

In fact, however, the population curve, at least in the Western industrialized countries, appears to take the form shown in the diagram, with a double inflexion of great significance. A slow, steady increase is suddenly replaced by a rapid growth that can be explained in terms of the Industrial Revolution, the pioneer settlement of new and rich lands, the spread of new health and hygiene. Then comes a slackening of growth in favour of an almost 'steady state', associated with the end of the pioneering era, and with a generally high standard of living that has brought into being a new prudence, since golden opportunity no longer lurks round every corner.

But this doubly inflected curve is not a world curve. Soviet Russia, for example, where the masses before this war were enter-

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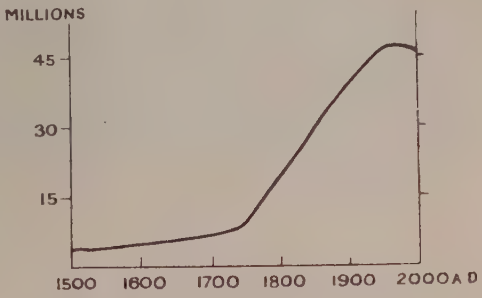
Man can overcome Nature—at a price. Here (left) *is a Soviet greenhouse in the Arctic, where artificial sunlight and artificial heat have contrived to ripen the tomatoes.* (Right) *The Libyan campaign has made such scenes familiar: the thirsty earth can support only the sparsest plant growth.* (Below) *The population curve in Western Europe showed a remarkable rise with the Industrial Revolution, but its present trend is hinting at a decline*



ing joyfully into a new and vast inheritance, still shows a rapid increase, as also does India, although for very different reasons. Anxiety about living space, therefore, takes on a national aspect, and particularly so because the amazing population increases in the industrialized countries of the West had as its counterpart a growing inability to feed that population from the home farms. This was the case in our own country, although viewing as we did the overseas Dominions as living space it gave us no concern. It was also the case, although to a less degree, in Germany; it began to be the case in Japan, and there were clear signs of it in Italy. France, with her population long since in the 'steady state', had no such problem, and the United States with her vast land resources had nothing to fear. In times of peace, with freely developing world trade, the problem might be merely an academic one, but in times of war, economic war equally with military war, the situation was fraught with terrifying possibilities.

Thus the notion of *Lebensraum*, of living space, was bound up in German eyes with the notion of autarky, of self-sufficiency especially in foodstuffs, but also in the other fundamentals of existence. The situation was complicated by another world-wide trend, at least in industrialized countries, the flight from the land to the cities, so that there arose a cry, not only for more soil to feed the people, but for yet more people to till the soil. The attempt to solve both problems by the forcible seizure of neighbours' territories and the enslavement of their peoples is what we are witnessing today. This clearly is no solution, nor shall we here attempt to offer one. But it is worth examining our figures again to see if they throw any light on the question: what should be Everyman's living space, and what proportion of a nation's workers should be settled on the land in a well-balanced economy?

If Mr O. E. Baker's figures are approximately correct, then mankind is sustained at his present average standard of living by the cultivation of rather less than two acres a head. This agrees with an estimate by the same writer that two and a half acres a head is required for the American standard of nutrition; scaling down to half, or even a quarter of an acre a head for the standard obtaining among the poorest peasants of the

Pictorial Press

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(Left) *In Germany and elsewhere in Central Europe the peasant farmer and his wife with scythe and rake still gather in the harvest.* (Top) *The Indian farmer must feed his bullocks as well as himself from his tiny holding. If he, and millions like him, could exchange his ragged shirt for a whole one, Lancashire looms would be busy.* (Bottom) *The standard of living is rising in many once-backward countries. Treading out the corn is becoming an uncommon sight in Turkey*

Far East. This tallies very well with the German estimates of from three-quarters to two and a half acres according to living standard, and it is not without significance that Mr Baker remarks that nearly half an acre per head could be saved if mechanical power were substituted for the draught animals which must themselves be fed from the land.

On some such numerical basis as this it can be calculated that Great Britain might have fed the equivalent of twelve to fifteen million people on her pre-war farm acreage, but as a considerable proportion of the land was not 'pulling its weight', we must reduce this figure to nine or ten millions, which agrees fairly well with the German estimate that we were importing four-fifths of our food. In German eyes this meant that our islands were over-populated by no less than 450 per cent; that is to say, we had more than four times as many people as we could feed. By improving our land and our farming methods, however, we were considered to be able to feed another eight millions, leaving us still with more than half the population to be fed from overseas. Similar calculations for their own country revealed Germany as 75 per cent over-populated, and able to relieve the situation by no more than 20 per cent if every possible improvement were effected. Japan, Switzerland (with over a fifth of its territory ranking as anoecumene), and the Low Countries were cited as over-populated, and as incapable of effecting any improvement whatsoever. Only France among Western European countries was deemed to be under-populated in the sense under discussion.

Without necessarily accepting these figures, we may next look at the second problem, that of man-power. How many people besides himself can the average farmer or farm-worker feed? To this question, too, it is not easy to find an answer, in view of the wide range of technical equipment and living standards. In Great Britain a million agricultural workers were on the land at the time when, as we suggest, the equivalent of food

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Farming by machinery is not only efficient, it saves the keep of farm animals: but nothing can equal farmyard manure for keeping the land in good heart

for about nine or ten million people was being produced. In the United States, ten million men met the needs of 120 million fellow-citizens and could still send an eighth of their produce abroad, so that it would appear that they could have supplied 140 million people at home. At a conservative estimate, then, every farmer worker can supply ten or a dozen persons including himself.

The German farm figures, however, are less easy to interpret. In 1933, fourteen millions of Germans, the farmers, peasants and their families, were getting a livelihood from the land, and if, say, seven millions of these were actually working (for women and older children give help on the peasant holding), then each worker was only providing for five and a half individuals including himself. This lower figure is, however, to be expected where simple peasant agriculture largely of a subsistence type obtains, and when we turn to the millions of farmers on tiny holdings in the East, it is clear that the surplus crop for sale must be small indeed. That the 110 million working farmers of India support 250 millions besides themselves, or just over three and a half persons per head, must be taken as a tribute to their unceasing toil and sacrifice. Since about 250 million acres are recorded as under cultivation, the estimate of about three-quarters of an acre a head for the Eastern farmer, which we have already cited, receives confirmation.

Figures may become tiresome and unreal, but we can review the matter very briefly in another fashion. Suppose all farmers were efficient, all land in good heart, all farming highly mechanized, so that everywhere one man might feed twelve from twenty-four acres? How would the world go then? Need we fight for living space? Or try to force or bribe men back to the land? Of all persons gainfully employed, only one in five would need to go on the land, and surely one in five will be found to go for love!

Cyprus Discovered

by LAURIE LEE

"CYPRUS belongs to: (*a*) Turkey, (*b*) Britain, (*c*) France?"

This question appeared in a recent Sunday newspaper 'quiz'. It was a topical question relating to Mr Churchill's visit; it was also, at the same time, a sorry reminder of our widespread ignorance on the subject.

I have been to Cyprus, but before I went there I shared that ignorance. Cyprus was nothing to me but a name, it had no shape in my mind, its people had no faces or characteristics, they were as vague and unpredictable as men from the moon.

On arrival there, however, in the winter of 1938, I discovered that name to be a beautiful island, an island peopled with human beings who were, in fact, members of the British Commonwealth of Nations. This was a surprise, and yet they seemed to know as little about me as I did about them. Their island seemed poor, neglected, undeveloped and forgotten. Perhaps that was part of its charm; it was at the same time a sign of our own shortcomings.

* * *

When I left Europe I left a continent spoiling for war. I sailed from Greece in a dirty 500-ton steamer packed with Jewish refugees bound for Palestine. As we passed through the crimson waters of the Ionian Sea, the Italian island of Rhodes drifted by on the evening horizon, blue, metallic, secret, like a malignant fortress, the skies above her buzzing with bombing planes.

But the following morning we entered a different world; the still, classic world of the Eastern Mediterranean lit by a pink mythological sun.

My first awareness of the approaching island was a sweet scent of resin on the air. A scent like a strange tune, full of vague recollections and inexplicable nostalgia. Then a cloud grew out of the cold clear sky, and the cloud filled the horizon and began to pour rain upon misty hills. All day we followed those hills. We saw bare rocks and dark groves of trees and mountains disappearing into the storm. But we saw no life nor any houses; the island seemed big, it seemed fertile, but it also seemed forsaken.

Towards evening we approached Limassol, one of the southern ports. Limassol has no harbour and her waters are shallow. We anchored about a mile outside; we were taken off by small bucking boats and landed upon a wooden jetty in streaming rain. In such weather the town seemed both strange and familiar. English cigarette cartons littered the sodden streets, and something like English policemen stood round about, but their hats had broad brims and they spoke in Greek.

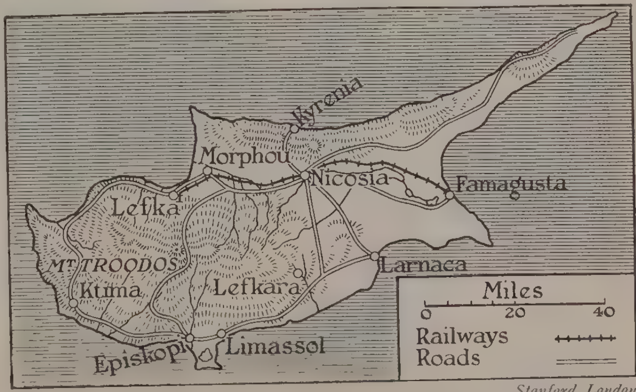
With four assorted people—a Jewish farmer, a Greek student, an Egyptian engineer and a young Cypriot—I shared a taxi to Nicosia. Except for grins and gestures we had no very effective common language. The roads were yellow lakes of rain, and we drove at top speed right into the heart of the island, night falling swiftly and our klaxon playing a non-stop fanfare through the blue unused country. The mountains of Troödos, on our left, burned for a brief spell before night covered them. And Nicosia, which must have heard us a league away, was lit like a birthday cake when we arrived.

The young Cypriot, Christo, had been away a long time; as we drove down the hill into the town he grew excited, tugging my arm and waving to invisible landmarks. "First we pass the Armenian Academy," he shouted, "then the place where they put the fools, then the Greek Gymnasia, then the field for dead men." This, then, was the capital of Cyprus.

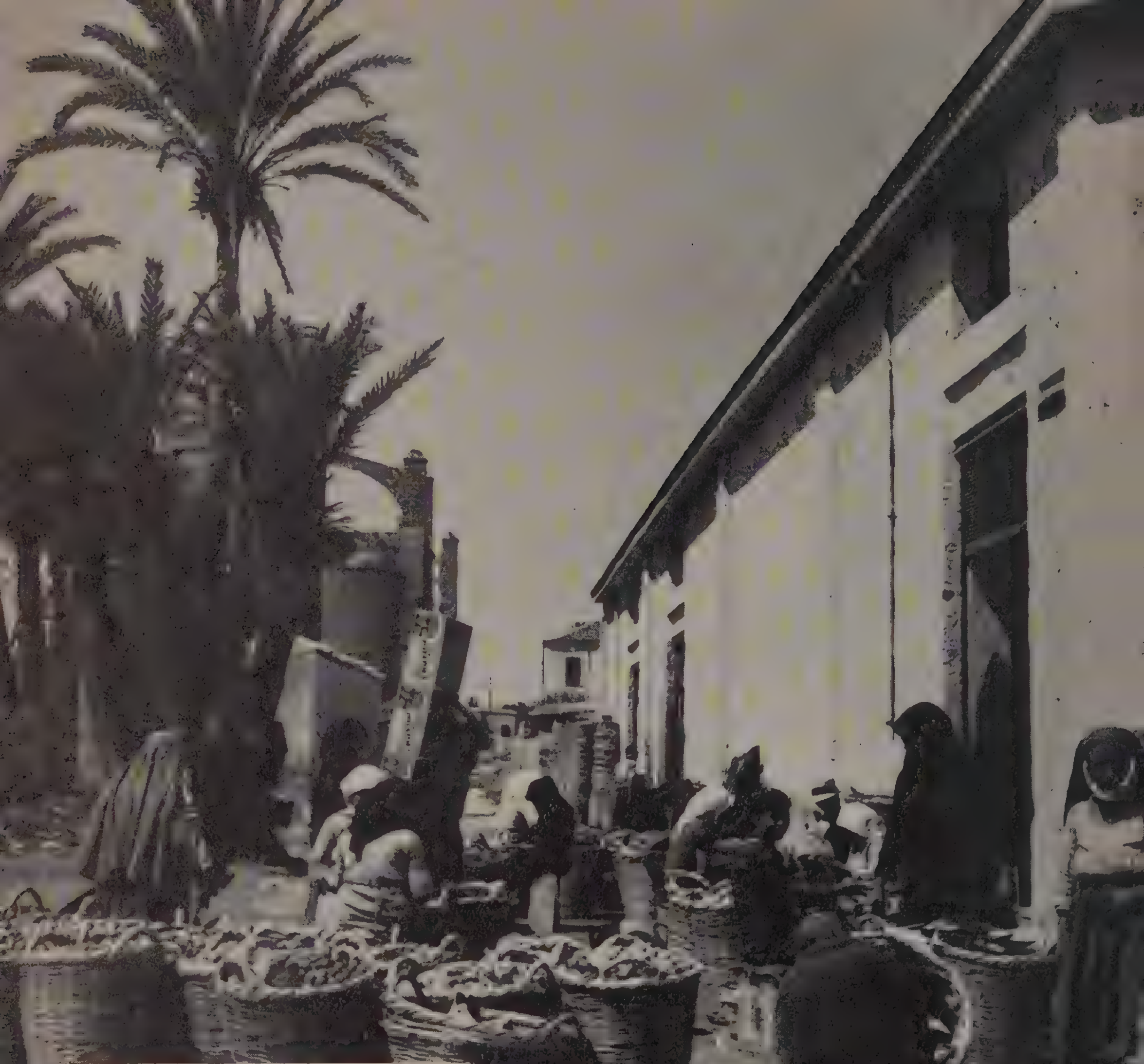
The town was full of trees; children, goats and flowers rambled over the ancient Venetian bastions, and the houses, slight and unsubstantial-looking, were covered with waving leaves. But among the people I found a most extraordinary *bonhomie*. I was there five days and got no sleep. With Christo as my introduction I soon knew every member of his generation. We spent nights and days eating sweet cakes in the cafés; electric horns in the streets never ceased their clamour for a moment; the whole place roared like a fair, and we had to go out into the fields to hear ourselves sing. Actually I was told there was a by-law against singing either in the streets or in the cafés. But no other noise was barred or neglected.

But Nicosia was too hot, too wet, too orgiastic and too exhausting. I longed for the legendary Famagusta, whose name suggested an oasis of green cypresses and called seductively from the east coast. So I took my leave, my pockets stuffed with cryptic notes, written in Greek, from my new friends commanding newer friends to receive me.

The only railway in Cyprus runs the sixty-odd miles from Nicosia to Famagusta. It is a small-gauge, miniature affair, with wooden trucks constructed as an apparent compromise between human beings and such



Stanford, London



Christmas was the main harvest time in Cyprus—the time of the orange harvest. Day and night, from the packing stations near the docks, one could hear the chatter of women and girls, grading and wrapping the golden fruit freshly gathered from the coastal gardens. There were other harvests too at other times, notably that of the new potatoes which, when packed, were loaded into small, brightly painted sailing boats and sent off to Egypt. (Above) *Turkish women packing new potatoes at Famagusta.* (Below) *The main gate at Famagusta* other livestock as they may wish to take with them. There is little room to relax, and in a crowded compartment the knees of the opposite passenger dovetail into your own. The journey took a long time and passed through a red, yellow and green country, flat, some of it only lightly scratched for cultivation, some showing vineyards and olive trees growing in steel-blue rows. On the northern horizon a range of arid, orange mountains gleamed unbroken in the slanting sun. Approaching Famagusta, hidden in the dusk, I had no idea what to expect.

I found Famagusta a splendid, dusty, war-scarred, terrible city. Its name, I am told, comes from the earlier Greek *Ammochostos*, meaning "hidden in the sand". Its sands are broad and blinding, even in winter, and the city, which is built half on rock and half on sand, sticks out into the sea with high unbroken walls surrounding it, golden as from centuries of sun. It was once one of the richest cities in the world; in the 13th century, under the Lusignan kings, it became the foremost mart of the Mediterranean, flowing with gold and jewels and all the treasures of that world. Its walls were some of the finest ever built, high with broad alleys round them, and covered with magnificent towers. Its walls remain, but the city is now but the graveyard of its former glory, full of the brown shells of Venetian palaces, of villas, churches, citadels, and the cathedral, broken by the cannon balls of the Turkish assault which captured the island in 1571.

And Turks live there today, orthodox Moslems, descendants of those conquerors, now quiet and conservative, reflecting very little of the revolutionary spirit of Modern Turkey though coloured portraits of Kemal Atatürk hang in every café.

There was a quality about this place which remained still terrifyingly medieval; the city walls were so thick and prison-like, the scarred churches were like wounds that would not heal, and the people, garbed in traditional rags, whipping their camels or dozing under the mosque, appeared to be enclosed by a past that would not let them go. They seemed mute, too, as if their tongues had been torn out.

But outside the walls, in the Greek quarter of Varosha, I found a different feeling, though one no less frightening. Here was a community of modern Greeks, full of intelligent curiosity, avid for information about the world they lived in, yet seemingly starved of it.

This, then, was the human make-up of Famagusta, and more or less typical of the whole island: mostly Greeks, a fair number of Turks, and a minority of Syrians, Armenians, Egyptians and Arabs. They lived together peaceably, with very little national prejudice of any sort.

These people had a considerable gaiety. Though they were poor, and though the young had but one thought—to escape to the modern world—yet they had a terrific talent and respect for enjoyment. They enjoyed themselves simply and in all the most obviously direct and unsophisticated ways; dancing, music, singing, gambling, gossip and the enthusiastic observance of festivals. There was a complete lack of urgency in everything they did, but when they decided to do a thing it was never cold-hearted. Their normal everyday commercial transactions were marked by an almost traditional exchange of civilities. When I went to a small tailor to order a pair of trousers, the first thing he did was to send out for a cup of thick Turkish coffee. And I had to sit down and drink it, and I had to talk. The master and his men sat round on the floor joking and telling stories and pulling one another's leg. Presently more coffee was sent for; it was like a party. This may not be the way to conduct business but it is a way to live. The trousers, when made, cost five shillings and sixpence. This included both material and labour, and they were excellently done. At such a price one can judge the rates of pay common in the island; not even skilled craftsmen earned much more than half a crown a day.

This tailor, who was a young Greek, became a great friend of mine. He asked me to his house for Christmas dinner, and that day is one I shall always remember. After bathing in the thick green sea I was given a special breakfast treat in my Syrian hotel; two pale-yoked eggs fried in oil. Then I went with the tailor and several of his acquaintances to visit Poli's fruit farm. Poli was a queer brown little farmer famed for a remarkable breed of oranges. He was very proud of them; he was always asking, "When are you coming to mine garden?" Today was the day, so first we went to his house, bowed to his wife, and drank wine and ate chunks of sweet ginger. Then we walked up and down the rows of orange, grapefruit and citrus trees, groaning now with the full weight of their harvest. Never have I seen such fruit! The oranges were like great lanterns bending the branches, and had an intoxicating flavour, like muscatel. They had thick oily skins and were often as much as nine inches across. Their size, I was told, made them uneconomical to export. The grapefruit, sold in the local market at

twopence a dozen, were almost as large, and a most luscious breed, sweet as honey and tender as the breast of chicken. To me, who had been used only to the tart, tough-skinned variety sold in England, they were a delicious revelation.

Besides these Poli grew pomegranates, peaches, plums, pears, tangerines, and smaller oranges for export. But this export market was never a very sure or well-organized affair, and, since the war, has practically broken down altogether. In fact, about a year ago, I received a desperate letter from Poli asking had I any suggestions as to what he could do with his rotting harvest?

The tailor's house, to which I went for dinner, was a simple one-story building of brown porous stone. The verandah was brilliant with geraniums, growing from painted petrol tins. The road outside was an ill-kept desolation of stones and deep gulleys carved by the torrential winter rain.

The interior of the house presented a strange conglomerate atmosphere, an overlapping of east and west. There were lovely pieces of local baked pottery mixed up with some hideous imported English vases. And on the walls I saw a Syrian plaque of exotically painted wood, a picture of Marion Davies, a metal cigarette advertisement, and a print of Stephenson's *Rocket*.

The tailor's wife, after presenting her

Cyprus is an island of craftsmen, peasant farmers and fishermen. Their way of life is Mediterranean and reflects modern European methods hardly at all. There are no big industries, no factories, nothing but that hard, individual, careless struggle for existence which has remained unchanged for centuries. A common sight in the village street is the black-robed priest of the Orthodox Church, a being whose patriarchal presence is like an echo of the past when seen against that biblical landscape. And characteristic of that landscape is the peasant family agriculture still largely primitive in technique, where the women till, sow and reap and look after the domestic animals, and the men devote their lives to the science of bargaining. During spring and summer the sun is very hot and it is quite usual to find the agricultural labourers at midday sleeping under the trees on which they hang their baskets. Around the shallow coastline, which abounds in fish, the fishermen follow their happy-go-lucky trade, netting sufficient for the day, but seldom more

daughter, a dark child of two with heavily kohled eyes, served up the meal and then retired discreetly to another room, leaving us alone. My friend, who spoke no English, had invited a travelled carpenter to act as interpreter. Our conversation, as we ate our Christmas meal, was an urgent catechism on the one hand, and a struggle for explanation on the other. The tailor was concerned about England and the turmoil of Europe, about which he knew so little. We ate a spicy succession of dishes: rice soup flavoured with cinnamon, pickled cabbage with boiled chicken, roast chicken with artichokes, and an abundance of sweet cakes washed down with Kommandaria. But throughout that lavish meal I was more aware of my host's real hunger, a hunger for news.

In the new year I attended his cousin's wedding; and a wedding is a big thing in a Cypriot's life, it is a climax in more ways than one; often it is something from which he never recovers. For a wedding is generally a holiday for the whole district; it is a huge feast and everyone takes part. But this means the provision of vast quantities of food and wine, and pride allows no skimping. Unfortunately the betrothed have often to borrow heavily to provide this, and although the reflected glory of their nuptial banquet may remain with them for many years, the debt remains also.

Feasts and festivals are occasions when the Cypriot really comes into his own, when he is best able to express his natural love of revelry, to let himself go and indulge his personality which seems never so exuberant as when sharing some common enjoyment with his fellows. The Cypriot year is a string of festivals; some religious, some pagan (like the Orange Festival), but all an excuse for feasting, dancing and song. (Left) *An Orthodox Church festival, which the priests, who mix freely with the people, enjoy as much as anyone. The photographer, too, was welcomed and made to join the party.* (Opposite) *A village wedding in which everyone takes part: the young couple is fêted by the whole population and launched into marriage with an orgy of feasting*

During my short stay in the island I had many opportunities of observing the Cypriot's volcanic vitality in matters of communal tradition; his love of colour, poetry, music, dancing, feasting, gambling and playing the fool.

Fighting was common too, but it was as brief as a Chinese cracker. Music was a living thing; nearly everyone who possessed an instrument seemed to play it superlatively well, and those who could not, sang. I remember attending a concert in a small village ten miles out of Famagusta. An orchestra of flutes, pipes, mandolines and fiddles, played by old men, children, youths and girls, performed Greek and Turkish tunes in a way which left me breathless with admiration. Towards the end of the evening a young student got up and recited Flecker's *The Old Ships*, a poem which mentions Cyprus. He spoke it in clipped, musical English, and though I imagine that very few in the room understood that language, yet they listened with wrapt attention, and when he came to the word 'Famagusta', they all fluttered and nodded and smiled at one another. The concert consisted of nothing but music and poetry, and it was a howling success. The air was full of choking dust stamped from the floor by appreciative feet.

* * *

Cyprus, the island, has been discovered to us at last; the Prime Minister's visit has done that. When I recall my own visit I think of these things: The wooded mountains of Troödos, a paradise of cool uplands seen from the baking plain. The green gardens of Famagusta with their forest of rattling windmills. The strings of brown camels *en route* for Kyrenia, and the priestly greeting of the camel-driver meeting you on that road. The red finger of the Kyrenian mountains pointing out through the blue sea towards Syria. The white ruins of ancient Salamis smothered with lizards and wild anemones. The quick bare feet of the potter, turning his wheel, and the movements of his black wet hands, moulding the clay. The lazy afternoons strung out under the Turkish mosque, drinking black coffee and playing dominoes. The abundance and richness of the fruit which never seemed to have a market. The extreme beauty of the young girls—Greek, Syrian and Turkish. The tragic

View from Hilarion, near Kyrenia. Half the island of Cyprus is a baking plain, but the rest consists of wooded, terraced hills, a cool paradise in summer, where most of the best grapes and olives are grown

ugliness of the young wives, slaving and cracking like clay under the hot sun. The music of the goats leaping round the golden walls of Famagusta. The wild dogs of the country farms snapping like wolves, and the naked children who ran out and asked you for the moon. The lights of the fishing boats on the blue night sea. The noise in the narrow streets; the shouting, the fighting, the bicycles, camels, roller-skates, cattle, poultry and electric motor-horns. The poor fields; the search for water, and when it rained the abundance of water running to waste. The girls' dancing at the Orange Festival, twisting their handkerchiefs, radiant in their long lace dresses. The warmth of the people, their friendliness, frustration, curiosity, their mania to escape. The biblical landscape with its olives, cypresses, palms and eucalyptus trees. The beauty of the island like a mirage shimmering to heaven in a haze of heat. The claustrophobia of the island like a lovely prison, the air so bright you could see for a hundred miles the distant coast which bound you like a chain.

This same claustrophobia seemed to dominate the young Cypriot even in his gayest moments. He loved his island but could not escape it. He felt lost, ignored, uncounted in the scheme of things. His whole life

Photographs by Nancy Jenkins

The eastern plain of Mesaöria, which produces wheat, potatoes and fruit, is a land with little water. Blindfold mules walk patiently all day, hauling up buckets on a wheel to keep the fruit farms green

was overshadowed by this and by a deep nostalgia for the mainland. He was worried by rumours of European conflict about which he had few real facts, though he knew, in the end, it would be bound to affect him.

Now war has shown him to be a fierce and valiant soldier, and his island one of extreme importance to the Democracies and to the strategy of their coming offensive. He has joined the battle with us; at last we know him and can see him. When peace comes, let us make sure that he is never again exiled, or forgotten, by the community of peoples to which he belongs.

Free Danes

by JOHN C. STREET

It is tempting in time of war to see everything in terms of black and white; we have accustomed ourselves to dividing the small countries of Europe (neutrals apart) into the occupied countries on the one hand, with their allied governments in London, and the enemy puppet states on the other. Such a division takes no account of one country which, to its misfortune, enjoys a peculiarly anomalous position — Denmark. Britain regards Denmark as an occupied country but not as an ally, and she is not of course a member of the United Nations. Germany affects to regard her as unoccupied, and the Danish King and Government are compelled to lend themselves to the fiction that in return for German protection they have been allowed to retain their independence and internal autonomy.

To the Danish people this presents a difficult problem. Heart and soul with the Allies, yet almost powerless to help in their tiny disarmed country, loyalty to King Christian bids them rally round his policy of honouring the terms imposed on the country by force on April 9, 1940, while doing their best to prevent the Germans from going beyond them. In their own country the Danes are not only bound with German bonds but muzzled, partly, with a self-imposed gag.

To judge their true inclinations, however, one has only to look at those Danes who live outside their house of bondage. They are restrained neither by concrete shackles nor by abstract inhibitions. Few in number, they have tried to demonstrate by their unity their determination to free their country and to earn for it an honoured place in the post-war world.

Chief among them are the merchant seamen whom that 9th of April found in every quarter of the globe sailing the seven seas as they have done for centuries. On that day, as the German hordes poured into Denmark, two appeals went out over the air. One from the Danish Government, issued under duress, called upon Danish ships to take refuge in a German or neutral port. Another, from London, urged them to put into an Allied harbour, to carry on from there the struggle against those who had violated their country's thousand-year-old independence. One Danish skipper, bound for Malaga, made the best of both worlds by continuing his journey, knowing full well that his course would take him into the contraband control port of Gibraltar on the way. Altogether, between three and four thousand seamen with

(Above, right) *Danish merchant seamen have their own club in a British port.* (Left) *Henrik Bjerregaard, whose story is told in this article. His is one of the few Danish exploits that can yet be chronicled.* (Opposite) *Free Danes are serving in every branch of our war effort. Their volunteers in the Buffs saluting King Haakon of Norway, brother of their own King Christian X, on his seventieth birthday*

half a million tons of shipping (just the tonnage which carried the Anglo-American invasion force to North Africa two and a half years later) rallied to the Allied cause and sailed henceforth under the British flag. When the United States came into the war the number was swelled by a further fifteen hundred. They have, of course, suffered casualties proportionate to their numbers.

Dangerous as are the grey waters of the Atlantic, where the submarine packs lie in wait for the slow-moving convoys, Danish ships manned by Danish crews have taken part in even more perilous exploits, from Crete to Murmansk, from the Lofotens to North Africa. For security reasons, and to prevent reprisals against their families at home, their names, their exploits and their experiences can seldom be printed. Not long ago, Francis Hackett retold in the English edition of *Free Denmark* the odyssey of First Mate Henrik Bjerregaard who, with five companions of whom three died, drifted for nineteen days in the North Atlantic on a raft nine feet by twelve. Bjerregaard did bicycling exercises to keep up his circulation, warmed his companions' frozen feet in his armpits, and finally climbed unaided aboard the rescue ship, with his 'diary', a notched stick on which he had kept a tally of the passing days and of the deaths of his comrades.

In the North British port where I live, they now have their central 'pool'. At any given moment there may be scores or even hundreds of them there. They have their own club and their own professional organizations. I find them men of few words, just as I knew them in peace-time in British ports or on the coasts of Jutland and Zeeland, going about their work in their usual dogged and unassuming way, looking forward only to the day when once again they can set their course *Skagen Ind*, "round the Skaw", and come to anchor in a free and independent Denmark. Till then, and apart from the separation from their families, they seem to have only two regrets: one that owing to the value which the Minister of War Transport places on their services to the merchant navy it has not been found possible to grant their desire to provide the crew for a warship; the other, that as they are not technically allies, they have to sail under the British flag instead of under their own scarlet and white *Dannebrog*.

The seamen have, throughout, given their whole attention to their job. But it was not long before other Danes over here, business men, journalists and so on, felt the need for some organization which would stimulate, centralize and coordinate their contribution to the British war effort, on which the liberation of their country depended. In September 1940, with the approval of the British Government, a Danish Council was formed by representative Danes of all classes with the motto "With Britain for Denmark's Freedom". Reversing the usual procedure, an "Association of Free Danes in Great Britain and Northern Ireland" was then formed round the Council, which submitted itself for re-election as the Association's executive instrument, thus placing itself on a sound democratic basis.

Danes now began to be admitted to the British services. In the army they form a special detachment of The Buffs of which King Christian is Honorary Colonel-in-Chief. In the R.A.F. the nucleus of a Danish Fighter Squadron was formed in April 1942, when Mr Churchill in person accepted from representatives of the Council a cheque for over £38,000, the proceeds of a Free Danish Spitfire Fund. Many Danes entered the women's services and Civil Defence.

A small community of which little is heard is that of the Danish fishermen who, with their own cutters, ply their craft from a British fishing harbour. Some of them were over here when their country was overrun. Others have joined us since, like the thin stream of people in all walks of life who, notwithstanding physical difficulties far greater than in Norway, have made their way across the North Sea.

In 1942 two events strengthened the Free Danish movement. In March the Danish Minister, Count Reventlow, who repudiated the Danish Government after it allowed itself to be coerced by the Germans into signature of the Anti-Comintern Pact, became Honorary President of the Association. Not long afterwards, Mr Christmas Møller, the Leader of the Danish Conservatives, escaped from Denmark where, owing to his patriotic activities, the Germans had forced him successively out of the Cabinet and the Parliament and banned all reference to him in the press. In August he became Chairman of the Council and the effective leader of the movement. When news of his escape reached Denmark, in May 1942, Danes went about greeting each other (in English) with the highly unseasonable greeting of "Happy Christmas!"

Throughout the British Empire and other parts of the free world similar committees and associations have been formed, such as the National America-Denmark Association in the United States, with which about 400 Danish-American organizations are affiliated. Well over 100,000 people in America were born and bred in Denmark, foremost among them William Knudsen, and though most of them are American citizens they have not forgotten their mother country in her hour of trial. The movement, however, has no final central authority. In America the outstanding figure is the Danish Minister, M. de Kauffmann, who refused to take further orders from the Danish Government on their acceptance of the German invasion, and a year later concluded with the American Government a temporary agreement by which the latter took Greenland under its protection until the end of the war.

In spite of its many and real services to the cause, the Free Danish movement would lack any real significance if it did not correspond to the sentiments of the overwhelming majority of the Danes at home, and no account of it would be complete without mention of those who, though physically in restraint, contrive to demonstrate that they are free in spirit. From the first, even through the darkest days of 1940, they cold-shouldered and boycotted the Germans in spite of the care taken by the latter to refrain from the outrages which they had committed in other countries where resistance was armed and open. A movement of national resurgence and passive resistance set in and has grown steadily ever since. The daily ride through Copenhagen, unarmed and unescorted, of His Majesty King Christian X, resumed on the very day after the invasion, has now become the symbol of defiance and the rallying point of national feeling. Sabotage, illegal organizations, chain letters, underground press, all the familiar ingredients of resistance in occupied countries, are present in Denmark, although the peculiar political conditions have prevented the situation from becoming as strained as in other occupied areas.

In all these countries the story of the subterranean struggle can only be told after the war. But with their ingenious humour the Danes have invented milder forms of annoying the Germans and expressing their true feelings. One day a bookshop filled its window with copies of a book called *English in Thirty Lessons* with a big advertisement running: "Learn English before the English Come". This was too much for the Germans, who had it removed. Next day it was replaced by a display of a German language method, and the advertisement was altered to read: "Learn German before our German Guests Leave Us".

The Free Danish movement abroad corresponds to the passive resistance and national resurgence in Denmark itself. This centres round King Christian X, whose daily ride through Copenhagen among his people has become a symbol and a rallying point

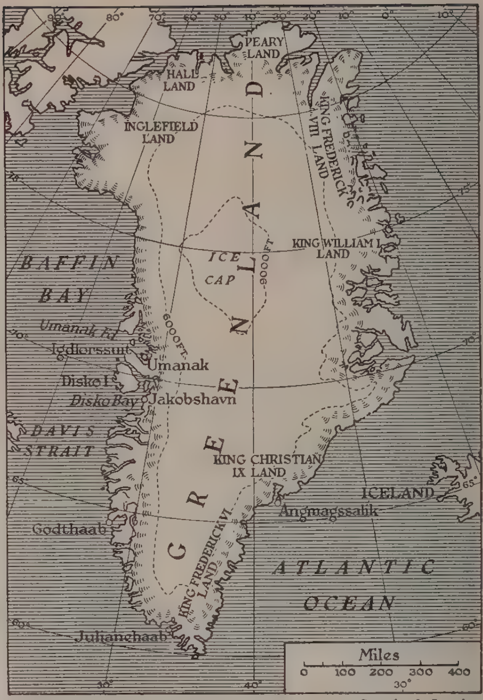
The press has become so skilful at writing for those trained to read between the lines that people say, in fun, the lines have to be printed further apart nowadays. The classical instance dates from the bombing by the R.A.F. of German objectives at a town in Jutland. The newspapers were allowed to report only that bombs had been dropped and a cow killed, but one paper was suspended for a fortnight for adding that "the cow burned for three days before it was put out". If such things may not weigh heavily in the scales of the war effort, the Danes know very well that, as our Prime Minister told them last October, their turn will come, and it is safe to assume that for three years now they have been quietly making their preparations, confident that in the Free Danes they have ambassadors to present their case to the Free World.

In this country, tribute has been paid to them as to other victims of Nazi tyranny and oppression who are contributing their share of "blood and tears, toil and sweat" by which alone the struggle can be won. Their organ, the well-edited weekly *Frit Danmark*, proudly translates into Danish such words as those Sir Arthur Salter spoke in February 1941: "Denmark is not an ally in name, but thanks to the assistance you are rendering, you stand on exactly the same footing as the Allies, and I cannot emphasize strongly enough the help you are giving". In conclusion, I may quote the tribute paid to them on November 6 last at the opening of a Danish Merchant Navy Club in the northern port from which I write: "Free Denmark is not 'formally an ally', its spokesmen are not sitting at the Council table, but its sailors are fighting on the seas. Of the two, the second is the more important. To us, Danish officers and seamen are in everything but name the real allies of their friends in the other free Merchant Navies which support our cause."

In Greenland's Flowery Valleys

by ISOBEL W. HUTCHISON

Greenland has been so closely associated in the popular mind with icy mountains (as a result of Bishop Heber's famous hymn which first appeared in 1811 in the Christian Observer) *that its interest as a field for botanists is often unrecognized. But the island's first colonizer, the Norwegian Erik the Red (A.D. 982), called it Greenland in order to attract people to follow him there. Miss Hutchison's account of the island is based on her experiences on the west coast while seeking specimens of flower seeds for the British Museum and the Royal Herbarium at Kew*

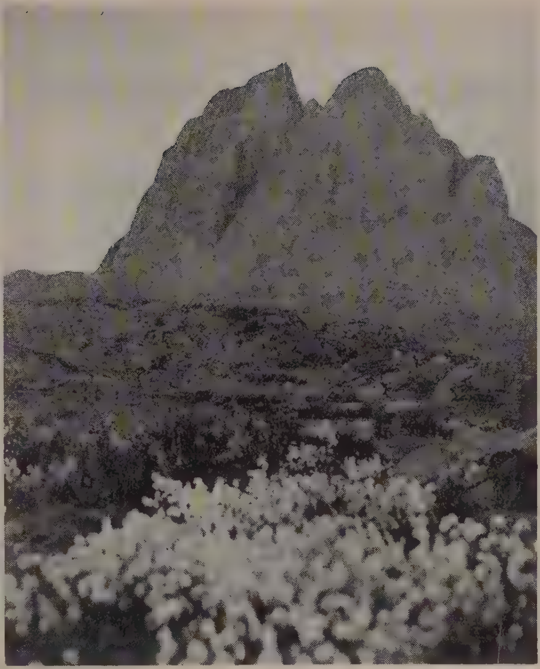


Stanford, London

In the summer of 1935 I found myself, by the kind invitation of the Greenland Directorate, for the third time a householder on the world's largest island. This was not just a simple matter of buying a ticket and engaging a berth on the next available steamer: for two hundred years Greenland has been one of the world's few 'closed shores', Denmark having the monopoly of all trade with her island colony, and those who visited it had to have special business there. This was a wise precaution. The 17,000 native inhabitants, who style themselves Greenlanders, are a simple friendly people and premature contact with civilization might well prove as disastrous to them as it has to primitive communities elsewhere. Danish rule was founded on mutual goodwill and sympathy. It dates from the days of the famous missionary Hans Egede and his wife Gertrud Rask, who landed at Godthaab in south-west Greenland in 1721 and established there the Lutheran Church, which has still no rival in this happy valley of a single faith. One may therefore hope that the end of the war will see Denmark's sovereignty over the whole of Greenland, which was ratified at the Hague in 1933, happily restored. At present the country enjoys the protection of the United States, whose assistance was called in a year after the German occupation of Denmark.

At that time the Germans had tried to land expeditions in eastern Greenland—the most remote and icebound side of the country. By an agreement concluded between Mr Kauffmann, the Danish Ambassador at Washington (acting of necessity on his own initiative), the American Government obtained the right to "construct and use for the duration of the war air and naval bases in Greenland and in return to guarantee Danish sovereignty over the island". American aid was essential from an economic as well as military standpoint, as all Greenland's supplies had come from Denmark.

On April 9, 1940, when the German troops slunk into Copenhagen concealed in the holds of trading ships, outside communication with Greenland ceased automatically. To feed the population and to find new markets for Greenland produce suddenly became an urgent necessity. These markets were best obtained in America, at that time a non-belligerent. It is poetically just that America should come to Greenland's aid at this crisis, for it was a Greenlander, Leif Eriksson,



There are nearly 400 species of flowering plants and ferns in Greenland, the majority of them 'alpines'. (Above) Viscaria alpina, *a rose-red alpine near Jakobshavn.* (Right) *In the foreground is bog cotton; behind is a Tind (peak), on the island of Umanak; on its rocky sides it is possible to gather flower seeds nearly all the year round as the winds blow them clear of the snow.* (Below) *Another Jakobshavn alpine,* Cerastium

who first discovered North America a thousand years ago.

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The greater part of Greenland sleeps under a covering of ice hundreds of feet deep. It would not therefore seem to offer many inducements to the botanist. But a green coastal fringe several miles wide surrounds this huge ice-cap, as its emerald border surrounds the snowdrop's petals, and it was as a botanist that I first obtained permission from the Greenland Directorate in 1927 to visit the east and south coasts. I was also given the surprising and gratifying information that I was the first British woman who had requested such a privilege.

That unforgettable journey to the most beautiful land I had ever seen led to a year's expedition to north Greenland in 1928–9, when my winter base was on the island of Umanak. The summer was spent on the island of Igdlorssuit at the mouth of Umanak Fjord. My purpose was the collection of Greenland seeds for a group of British

(Above; left) *The old Greenland dock at Copenhagen, from which, before the war, all vessels bound for Greenland used to start;* (right) *the parsonage of Jakobshavn, birthplace of Greenland's most famous son, the late Dr. Knud Rasmussen.* (Below; left) *The most northerly stone church in the world, at Umanak, to whose consecration in 1935 the author was invited by the Greenland Directorate*

Hans, the 'Ice Boy', who, besides bringing her ice for drinking water, from the icebergs which decorate Greenland ports, helped to run the author's house at Jakobshavn collectors, including the Royal Herbarium of Kew. A modest success attended this venture, and twenty-three species of Greenland plants germinated in Britain.

I have sometimes been asked how it is possible to collect seeds under the Greenland snows of winter. Though it is true the majority were taken in late autumn when the snowfall was still light, Umanak Island is a huge stack of basalt rising to twin peaks over 3000 feet high, and the winds blew its rocks so clear of snow that the collection of seeds of certain alpines—such as *Rhododendron lapponicum*, the Greenland saxifrage, and the charming little rose-red *Viscaria alpina*—could be carried on practically all the year round. Some of these seeds, however, require the covering of snow before germination takes place, and are therefore hard to rear in Britain.

My third visit to Greenland was again to the west coast. In the summer of 1935 a new stone-built church—the most northerly stone church in the world—was consecrated in Umanak. The Greenland Directorate generously invited me to the dedication of this building, which took place in August, and I asked and obtained permission to travel by a boat earlier in the year to spend the summer botanizing.

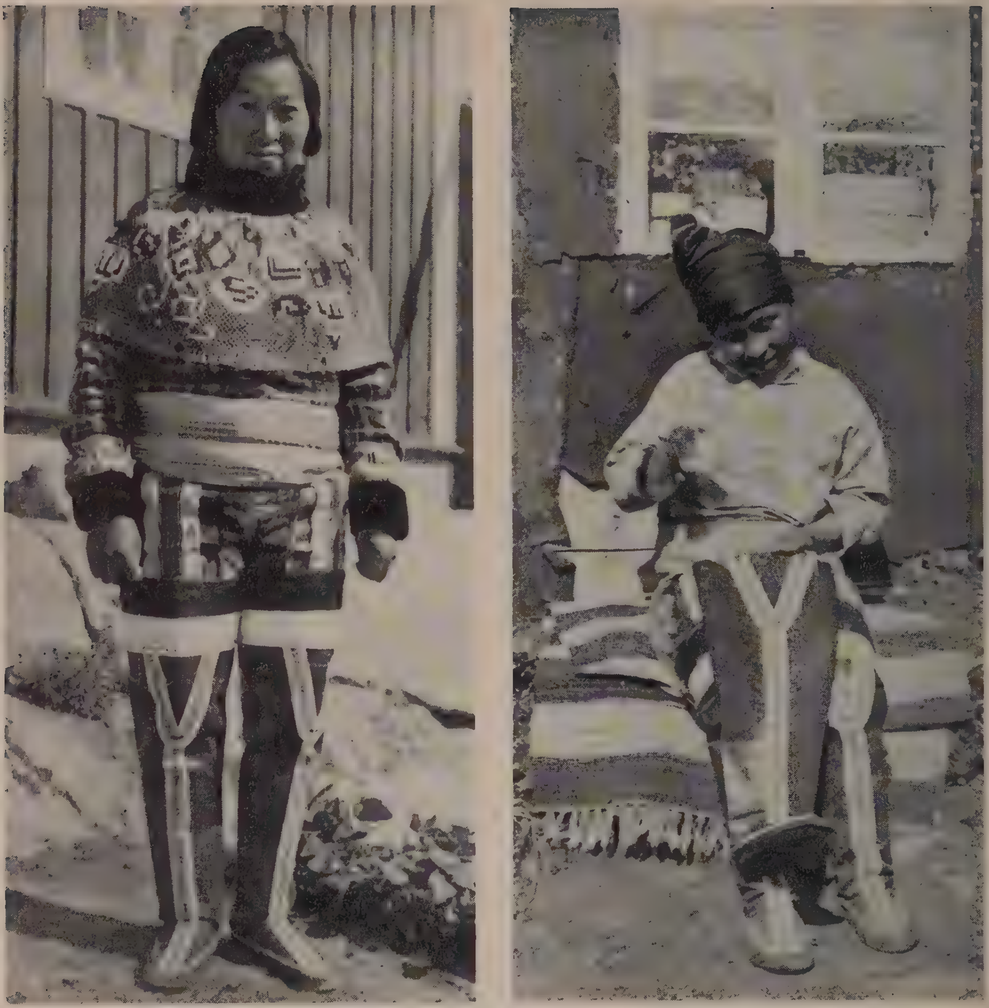
With a list of 'wanted' plants from the Natural History Department of the British Museum carefully secured in my pocket-book, I set out from Copenhagen in May, my intention being to spend the summer in the Jakobshavn district of central west Greenland.

There are in Greenland some 390 different species of flowering plants and ferns, mostly of that daintiest type the alpines. They are fit blossoms for a land which in summer more nearly approaches to our idea of Fairyland than any other country. Where, for instance, but in Greenland or Fairyland could the visitor enjoy practically 1440 hours of uninterrupted sunshine during June and July? For those two golden months no night darkened my perpetual day at Jakobshavn, and, by good fortune, scarcely a drop of rain fell to mar my plant-hunting. Only on rare occasions did mist obscure the golden rays which shone day and night through the windows of my little house on the rocks overlooking Disko Bay.

Though I did not own all of this building, for part of it was used as sleeping quarters by the Greenland nurses from the big hospital on the height above, by the kindness of the Danish doctor in charge, Dr Sylvester Saxtorph, I owned two-thirds of it, consisting of the kitchen (with an entry 'off' which my *kivfak* or housekeeper, Libbi, used as wardrobe and larder combined), a sitting-room which opened off the kitchen and had access by a second door into the hall. From this hall a steep ladder stair led to the uninhabited upper storey. My house was run by Libbi and Hans, my 'Ice-Boy'. In Jakobshavn and some other Greenland colonies, owing to the danger of typhoid, water for drinking and cooking purposes is carried from the icebergs which always decorate a Greenland port. The Greenland householder must hire a special servant (at a modest fee of some twelve or fourteen shillings per month) for this duty. Hans was the boy whom I had hired, or rather, who had been hired for me by Libbi. My consumption of water being but small, the Danish housewives of the colony assured me that in a properly run establishment it should have been arranged that Libbi included this task in her ordinary household duties. But I made no attempt to cope with Libbi, and I am quite certain that in that thrifty Danish community her house (and mine) was worse run than any other. My botanical duties, or so I said, kept me too busy to attend to domestic matters, but the real truth was that I was afraid of Libbi.

Her real name was Rebecca Maria Elisabetta Frederika Huck, but owing to the Greenlandic pronunciation of the letter *r*, Rebecca had been shortened to Libbi. The Eskimo language—the native tongue of the Greenlander—is a difficult one for the foreigner to master. The longest known word contains 76 letters and when typewritten is more than six inches in length. Nor can Eskimo be related to any other known language, with the exception of that spoken by the natives of the Aleutian islands, who are second cousins of the Eskimos. Libbi, however, had like myself a working knowledge of Danish, and from my two previous visits to Greenland I possessed also a smattering of Greenlandic. With this hybrid tongue we got along excellently, and before my departure Libbi and Hans added a few words of English to their vocabulary.

The peculiar and interesting Arctic race, of which Hans and Libbi were members, numbers barely 40,000—hardly enough to populate a minor provincial town of the British Isles. This number is out of all proportion to the cultural importance of the race, which is thinly dispersed around the Polar Regions of the globe from Alaska to Greenland, with an offshoot of some 1200 across the Bering Strait at East Cape, Siberia. Yet the language of all these different tribes from Greenland to Alaska is so homogeneous



(Left) *Libbi, the author's housekeeper, in her embroidered* kamikker (*top-boots*), *sealskin trousers and* anoraq (*jumper*) *with bead collar.* (Right) *Libbi's mother, Anana, looking coy, because she has just become engaged to be married again. Behind her is her little house, tacked over with black felt, with its window conservatory. She is embroidering a* kamik *for her trousseau*

that the late Dr Knud Rasmussen, when he made his famous sledge journey across Arctic America in 1924, was able to make himself understood all the way in his own Greenlandic dialect. The racial features of the pure Eskimo are also very constant—straight black hair, long narrow skull, high cheek-bones, small eyes and nose.

The majority of the people of west Greenland are a hybrid race, so much mixed with nordic blood that to find a pure Eskimo is very nearly impossible. But there are some who conform more closely than their neighbours to the old type, both in appearance and behaviour. Libbi was one of those exceptions. She was Eskimoid, not only to a modified extent in appearance, but also in character. Bold, proud, independent and, like all Greenlanders, regally extravagant, in her veins beat the nomad blood of the free-born. She must rule and would not be ruled. Perhaps on that account she had remained a spinster. Most Greenland girls marry at an early age, but I judged my *kivfak* to be somewhere in the thirties. Her true age, however, was a secret known only to herself and Anana.

Anana (Greenlandic for 'mother') was Libbi's sole surviving parent, an interesting widow who still wore her hair in the singular T-shaped top-knot affected by the Greenland woman of olden times. She and Libbi, who was the last home bird of a numerous family, lived together in a quaint little wooden bandbox of a house perched upon the rocks above me. It was tacked over with quantities of black felt, and against its large imported window, as the brief summer drew on apace, pressed a little conservatory of bright plants in pots, grown very successfully from seed.

This type of indoor garden is usually the only attempt at horticulture made by the Greenlander, though some of the Danes have small gardens and ripen during a good summer such hardy vegetables as radish, cabbage, parsley and even potatoes.

In southern Greenland matters are very different, and the farm station at Julianehaab has quite an imposing garden. In north Greenland neither sheep nor cattle can be reared, and hens are a luxury. One summer day the Doctor's wife at Jakobshavn returned from an outing to find her fifteen fine fowls reduced to a few floating feathers, and her huskies looking particularly pleased with themselves. Undismayed by this little accident she had imported a fresh flock, who had been my travelling companions on the voyage up, and despite the absence (or permanence) of dawn, I was still roused at cockcrow by the cry of chanticleer.

If Libbi could not afford me romance in the brief two months of our acquaintance (and I was not so sure about this), Anana made up for it. "Did Libbi tell you that her mother is engaged to be married again?" Dr Saxtorph asked me one day when I had gone to borrow a book from his hospitable international shelves.

No, Libbi had not imparted this interesting item of news. When I questioned her about it, she replied shortly "*Naluvara*" ("I know nothing about it!"). I got the impression that her daughter did not entirely approve of Anana's new venture. Some Sundays later, however, Anana was 'cried' in church. Her intended bridegroom was an intelligent Greenlander who had been a member of a Danish scientific expedition and was already twice a widower. The wedding was postponed at his request and I had to leave for Umanak before it took place. He wanted the happy event to occur on the anniversary of his two previous weddings!

* * *

In the brief two months at my disposal I wondered at first if I should ever be able to collect more than a thousand 'wanteds' for the British Museum, but eventually I secured nearly double that number.

On my arrival in early June I began with salix, the ground-willow which espaliers the rocks and rears its crimson and gold-stamened catkins all over the little valleys behind the colony. One species has bright green glabrous leaves, the other has darker ones covered with a slight down. A still more fairy-like form, the smallest tree in the world, *Salix herbacea*—opens a very minute catkin between glossy blades and covers big patches of ground in sheltered places under the rocks, as well as on exposed soil above them. This plant is still more elfin in autumn, when her volatile seed unfolds its satin wing to the winds.

I took fifty branches of the ground-willow in June, marking the spot in order to return (as I had been directed), to collect the leaves when they had grown to autumnal size in late July. They were woody and hard to dry, but they were wanted for reference, and I had to have at least a hundred branches. My three presses were constantly as full as they could be, but I had been advised by Greenland's famous botanist, the late Magister Porsild (who called in at the colony one day in his schooner from Disko Island and spared an hour to take tea with me), that the very best way to dry the leaves quickly and yet retain the colour which in the salix is so apt to blacken, was to leave the presses overnight on the top of the stove after the fire had gone out. On the whole, I found this a good plan, though in my establishment it had its disadvantages, for Libbi let the stove go out entirely except when she was cooking on it. I was thus apt to forget all about my presses when the fire went on again and cooking began, with the result that I might find my willows scorched, or, as on the first occasion, soaked to the marrow with cold pea soup which my housekeeper had splashed prodigally about the range.

The children took much interest in my plant-hunting. One morning shortly after my arrival, three of them arrived at my door very early. They bore posies of alpine blossoms, *Cerastium alpinum*, *Saxifraga cernua* and *Potentilla nivea*. Cerastium, with its large starry blossoms, is one of the first and quite the last flower of a Greenland summer. I have even found it amid the snows of October. *Saxifraga cernua*, a lovely species with milky flowers on slim red stems, is common in Greenland and grows plentifully on the rocks at Jakobshavn, but is known in Britain only from the summit of one Scottish mountain where it is now said to be almost extinct. The golden *Potentilla nivea* was one of the species on the British Museum's list, and I looked unsympathetically on its truncated stems in the hot hands of the shortest, moistest boy. But the intention was obviously a graceful one; the children wanted to help my flower-hunting.

I enquired the names of my visitors, and was sobered to find that Peter, Paul and Zaccheus had called on me thus early.

A name is still a very important matter in Greenland; most parents give their children three, four or even five. "The name," says Dr Kaj Birket Smith in his book *The Eskimos*, "was formerly regarded as a kind of extra soul, and when a person dies his name wanders about helplessly until it is given to a new child. By this means a child inherits the qualities of the deceased." Perhaps this is the reason for the Greenland parent's love of Bible names. I have even come across an Ananias in southern Greenland, though it is only fair to say that he did not seem to have inherited his namesake's characteristics!

Fortunately Libbi (who had disposed in a few days of the small store of tinned food I had intended for my summer supply) had not yet discovered where I kept the key of my sweet-cupboard. I found Peter, Paul and Zaccheus to be unluckily as fond of sweets as I am myself. This early introduction to my store was an indiscretion which I soon had reason to repent. Throughout the summer, until the last of my boxes had disappeared, I observed at all odd hours of the day and even well on into the sunlit night, prowling groups of dirty children, clutching posies, ranged outside the high wire fence of the bare enclosure which Dr Saxtorph called my "garden".

There is no use in being sentimental about Greenland children. They are predatory. Like the young of other lands there are among them many who appear (if we believe their own superstition) to have been named after Satan and to have inherited his propensity for mischief. Unlike their namesake, however, they remain unpunished and are treated by their parents with every indulgence.

It was my innocent enjoyment, in sunlit intervals snatched from plant-hunting, to go sketching. The first time I selected as an excellent viewpoint the rocks above the little valley in which my house and the church and parsonage were situated. The latter was an old and famous building, the birthplace of the late Dr Knud Rasmussen, whose parents and grandparents are buried at Jakobshavn. Scarcely was I set, however, than I heard behind me the hot breath of my pursuers. It was again Zaccheus and Co., to the number of six. Their comments were at first subdued, and from what I could understand appeared to be even flattering.

"It is the hospital she paints."

" No. The church. I know it. Look!"

"I tell you it is the hospital."

"I say it is the *ice*!" To make sure, Zaccheus approached and sampled my valuable rose-madder on his grimy forefinger.

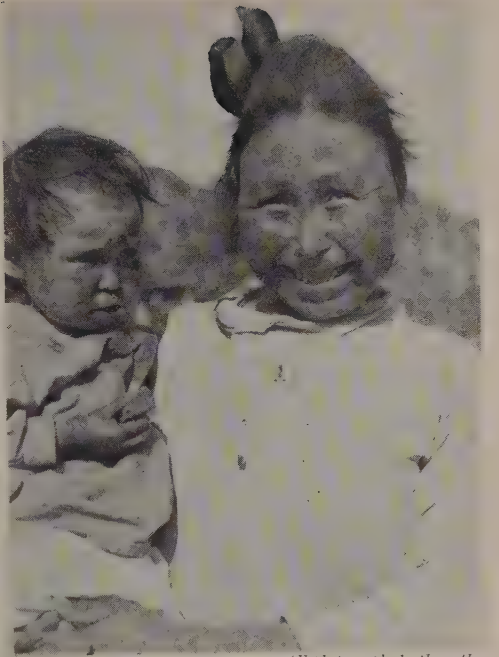
"*Perit!*"

Stung to sudden energy by the swarm of mosquitoes which the presence of so many heated bodies had collected about me, I tried the effect of a word which I had heard Libbi use to scare the dogs from our kitchen door. (When Libbi was not there I surreptitiously encouraged them with Spratt's biscuits brought for the purpose from home.) One of the children fell flat on his face with fright, the others stared at me in such astonishment that my conscience smote me and I spoilt the effect of my remark by a conciliatory grin.

Of all the children Peter was my favourite. He was perhaps seven or eight years old, with a great mop of curly fair hair and curiously arresting green eyes. It seemed as if he could scarcely take these eyes off me, so much interested were they by my strange appearance and character. Peter even walked sideways and then backwards on the path in order to keep his eyes glued to my face.

From his colouring one might have imagined that Peter was one of those Danish hybrids of whom there are too many in Greenland, but Peter's father and mother were Greenlanders. Up in the big red hospital on the top of the rocks his father was coughing his life away. Of the twenty-five patients there, twenty suffered from tuberculosis, the scourge of the Eskimo. A few days later Peter saw his father, dressed carefully in a clean but ragged shirt lacking a button and a pair of split new stockings just purchased from the store, carried down the rocks on a stretcher and locked into the little mortuary, a stone's-cast from the church, to await the rough pine coffin and the last journey to one of the little graveyards, of which there were three or four, tucked away above the colony on the rocky hillside.

On the evening of his father's funeral, which Peter, an only child, attended dressed in a clean white *anoraq* (blouse or jumper), his ragged trousers tucked into the sealskin tops



(Left) *This Greenland family enjoys tent life in summer near Jakobshavn.* (Right) *A Jakobshavn mother wearing her hair in the old-fashioned Greenland* kilertit (*top-knot*), *bound with a different coloured ribbon according to whether its wearer is maid, wife or widow*

All photographs by the author

of his *kamikker* (top-boots), he arrived at my house with a fine bouquet of one of Greenland's few sweet-scented blossoms, the creamy white *Ledum groenlandicum* which the Danes call rosmarina. He had been gathering it to twist a wreath for his father's grave.

The funeral over, he was as gay as ever, the ringleader in a crowd of young devils out hunting with sticks and stones for the defenceless chicks of the snow-bunting in their too vulnerable nests amid the heath. Like others of his kind his attitude toward wild life seemed solely destructive.

Too soon came the sad morning, appropriately attended by my first deluge of rain, when the happy days at Jakobshavn were over and I joined the distinguished company of Danes on board m.s. *Disko* on their way north to Umanak to attend the opening of the handsome new church, designed by the Danish architect Mr Helge Møller.

Libbi was too busy mending a broken necklace on the morning of my departure to pay me much attention. She had to look her best when there were so many visitors in the colony. But in the afternoon, resplendent in the beautiful national costume of the Greenland woman, fur trousers, embroidered top-boots and brilliant anoraq with its magnificent bead collar, she and Hans waved me farewell from the top of an iceberg.

It was not my last glimpse of Libbi. Three year later, when attending a conference at Copenhagen, to my great surprise and pleasure I was waited on once more by my kivfak in the pleasant dining-room of the Greenlanders' Home in Amager, where she assisted the manageress Mrs Binzer. She had achieved her soul's ambition,—to see Denmark. I bade her farewell again under the August stars, the lights of the beautiful city glittering across the harbour. Our farewell this time was for ever, for Libbi did not live to see those lights extinguished. The following year I got word that tuberculosis had set in after a bad chill, and Libbi passed on.

But the big gold taraxacum (*Nasut orssuq palugtok*—"the yellow one") in the presses of the British Museum still keep her memory bright. For it was Libbi who found for me this flower, so uncommon in Greenland, wanted 'in quantity' by the Museum. She 'pinched' a boat to reach its inaccessible habitat on the shores of a little bay near Jakobshavn, and whenever I see a field of golden dandelions—the flower of Saint Bride—it brings to mind that other resolute spinster, Rebecca Maria Elisabetta Frederika Huck, and the paleochrystic glory of the Jakobshavn Ice Fjord.

Wildfowling with a Camera

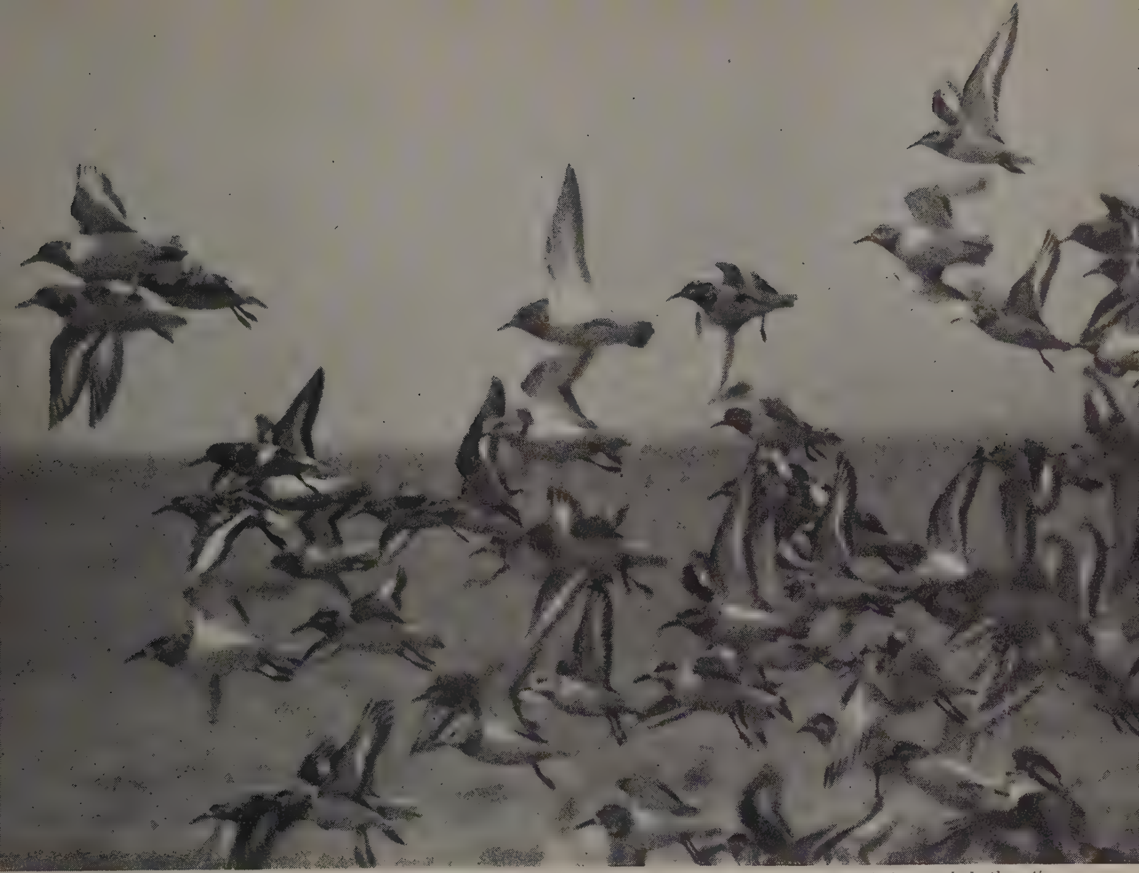
by GUY B. FARRAR

"How do you manage to get close enough to obtain photographs of such shy creatures as wildfowl and waders on migration?" is a question I am often asked by people interested in bird-watching and nature photography. I propose answering the question by discussing the many obstacles to wildfowling with a camera and some of the means of overcoming them.

When a wildfowler discards his 12-bore shotgun for a 12-inch telephoto lens, his difficulties in obtaining a satisfactory 'bag' are increased at least tenfold. A suitable charge of shot, properly directed, will kill a wader on the wing at a range of fifty or even sixty yards. To obtain a photograph of that same wader the wildfowler must induce it to stand motionless at a distance of about ten yards or less from his lens—a formidable problem. And yet it is the wildfowler, the man endowed with the patience to undertake much preliminary observation, who is most likely to achieve success in this exacting form of bird photography.

I have tried many different methods of approaching waders but have found that the only practical one is to use the incoming tide, allowing it to drive them towards my 'hide', which is placed in such a position that at high water it remains just beyond the reach of the full sea mark.

When tides are running high, I go to an estuary and watch the movement of bird life during the two hours preceding full flood. As the incoming tide floods the sands, releasing the marine life imprisoned beneath the dry surface, the waders crowd to the water's edge to feed, only retreating as the rising flood drives them to higher levels, which in turn have now become dinner-tables for the hordes of hungry migrants. But at last even the highest sandbanks are submerged and the hen-footed waders are forced to seek a refuge, perhaps some small island, where they can rest beyond the reach of the full flood until the ebb once more uncovers the sand, thus



All photographs by the author

Sanderling rising from the edge of the tide. "Never before or since", says the author, "have I obtained a close-up of these little waders in flight. Even 1/100 second exposure was insufficient to arrest the motion of their fast-beating wings as they raced from the rock in a dense cloud"

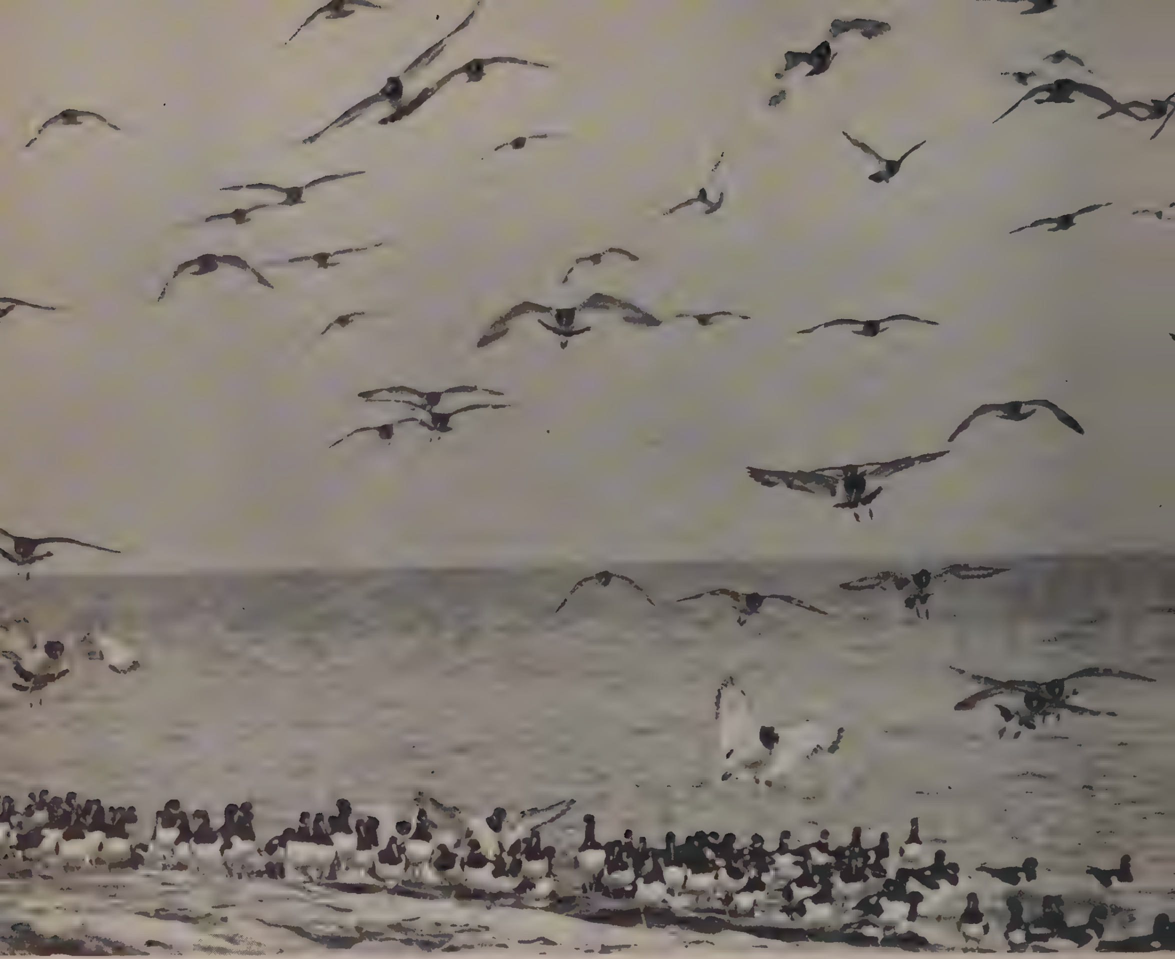
enabling them to continue their interrupted meal. This short rest period at the turn of the tide is the only time photographs can be obtained.

My own island, to which the waders come at three-quarter flood and where most of my photographs are taken, is a small outcrop of sandstone, slippery on its lower ledges with a slimy pall of seaweed and bladderwrack, and whitened on its summit with the droppings of cormorants and gulls. At low tide it measures about 200 × 30 yards; at full flood only my hide and a few square yards of rock are visible.

The hide I use is a small green tent supported on four bamboo poles stayed with guy ropes fastened to heavy stones. Smaller stones are used to prevent the bottom of the tent from flapping. On one occasion an inquisitive turnstone carefully investigated each stone holding down the front of the hide, evidently hoping to find some unexpected delicacy in the green folds beneath them.

From the slits in the sides of my tent I have, at times, had a remarkable view of bird life—the whole island, or what remained above water, carpeted with a mass of vociferous birds, of at least a dozen species. One very hot August day I estimated that 2000 sanderling occupied the rock space in front of my hide. At such times it is almost impossible to find a subject for the camera in the congested mass of birds. The edges of a flock, where a few birds are separated from the main body and silhouetted against a background of sea, are the best places to look for one.

Difficulty may be experienced in separating the species to be photographed, perhaps some unusual visitor, from the common herd. I have painful memories of a party of black-



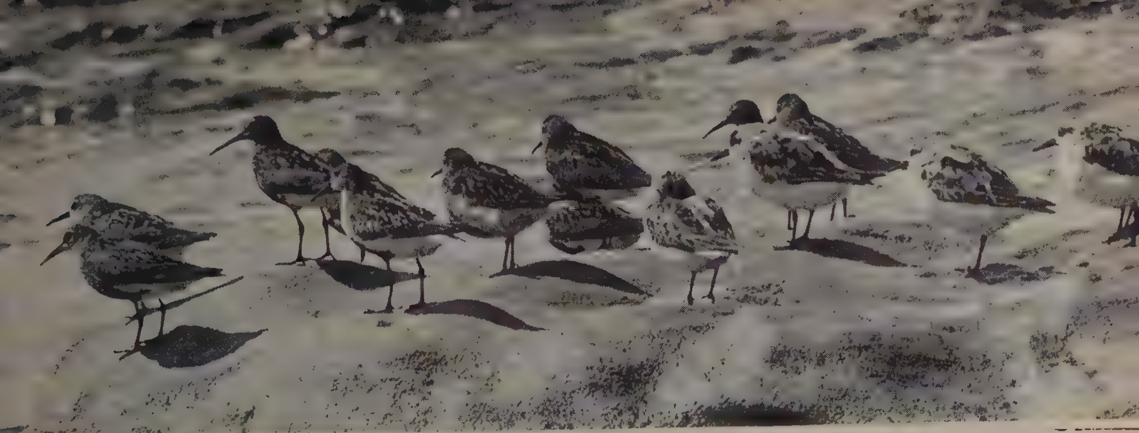
Oyster Catchers flighting. This photograph was taken by focussing on the birds on the ground and then waiting till the air seemed full of new arrivals. The complete wing and leg movement of alighting, and the preparatory gliding flight are illustrated

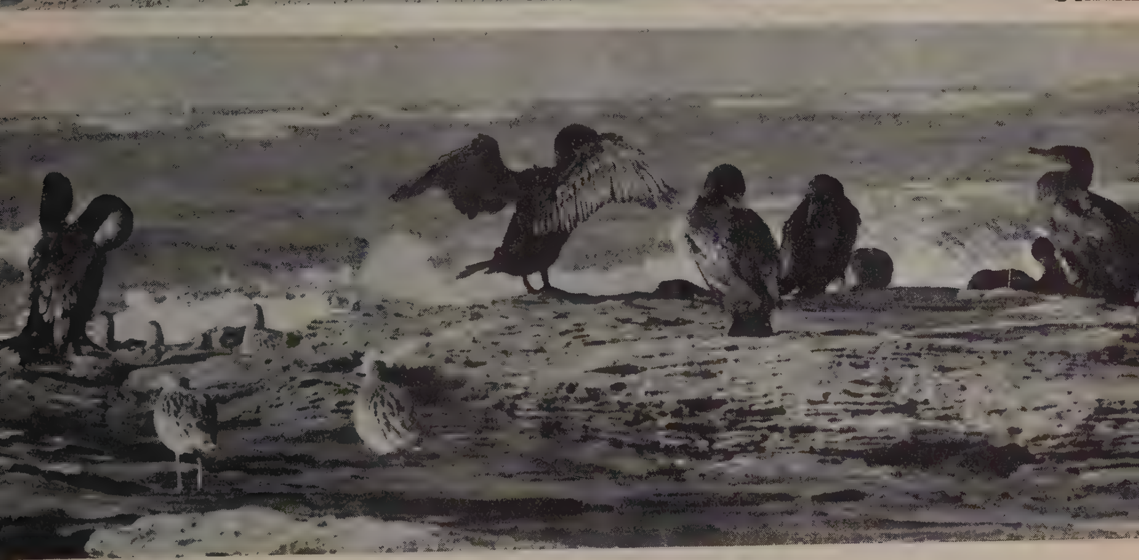
tailed godwits who would persist in sheltering themselves behind a row of curlew. I waited in agonizing suspense for over an hour, but all in vain, those wretched curlew never moved and I lost the chance of taking what might have been a unique photograph.

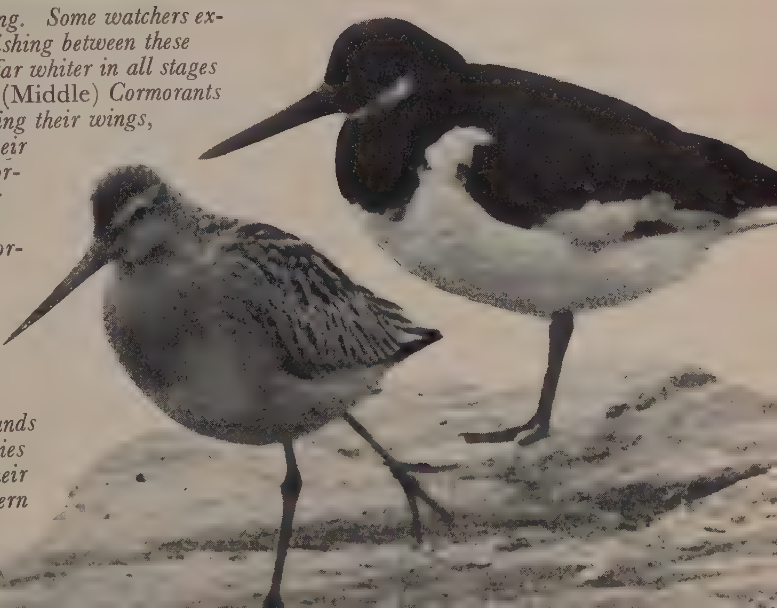
Opportunities for wildfowling with a camera are naturally limited by the height of the tide. In my own case, a tide of suitable height only occurs about four times in each month. Subtract the days in which a strong wind, bad light or lack of birds make photography impossible, and you will have some idea of the time taken to obtain a really good set of wildfowl pictures. To make a comprehensive collection of even our commoner shore birds, in flight, resting and showing their seasonal change of plumage, is a task needing years to accomplish, while a whole lifetime might be too short to record the passage of the rarer migrants. My own small collection embodies ten years of continuous watching at all seasons of the year except midsummer.

I will describe an actual day spent in the hide, which will give an idea of the excitement and suspense it entailed.

The way to my bird island lies across a stretch of mud flats still wet from the night tide. Great white clouds, looking like giant







(Top) *Dunlin and Sanderling. Some watchers experience difficulty in distinguishing between these species, but a Sanderling is far whiter in all stages of plumage than a Dunlin.* (Middle) *Cormorants and curlew at high tide, drying their wings, preening and resting after their midday meal. These Cormorants use the 'bird island' for refuge, except in spring and early summer, when the majority migrate to their nesting crags in cliffs and islands around our shores.* (Bottom) *A young bar-tailed Godwit, and, behind, an Oyster Catcher. Godwits breed in northern lands and pass through our estuaries on their way to and from their winter quarters in the southern hemisphere*

Waders on the ebb tide: Knot—a variety of Sandpiper—rising from the edge of the water to seek new feeding grounds laid bare by the ebb. They nest in the farthest north and spend the winter on the sub-arctic foreshores of both hemispheres

icebergs, float majestically across a Cambridge blue sky; a low, continuous murmur of breaking surf comes from the sand-bar at the estuary mouth, but the flood is stealing up the gutters with the stealthy infiltration of an invading army. Terns, both common and Arctic, hover, scream and dive after sand eels and baby fish borne landwards by the incoming tide.

The hide is erected; the guy ropes adjusted; the camera and tripod made ready; and, at last, we have leisure to peep through a slit in the side to observe the arrival of our first visitors.

We have not long to wait. Heralded by a chorus of shrill squeaks, a party of oystercatchers settle on the lower rocks. They look very smart in their black-and-white plumage, with their orange beaks and purplish pink legs. The White Knight, a pure white bird, is not among them today, but he has visited this estuary for many years past and this season I saw another oddity, a bird with a white head and neck, a most unusual-looking oystercatcher.

A cloud of small waders sweeps round the island, now rising high, now skimming low over the water, before finally alighting not far from the hide. They are dunlin in full breeding plumage, black-breasted and chestnut in their nuptial dress. Many of them in a few weeks' time may be nesting within the Arctic Circle.

Some herring gulls and more oystercatchers arrive and then a party of loud-voiced redshank; the rock is becoming quite crowded, but round my hide there still remains an ever-narrowing circle of unoccupied ground. About a dozen cormorants, probably non-breeding birds, approach the northern end of the island and flop heavily into the sea before waddling ashore with that delightful nautical roll that so befits these expert mariners of the bird world.

As the tide nears its height, the bird population becomes more and more congested, late comers finding it difficult to secure a landing ground.

I must bag that bunch of dunlin grouped at the water's edge, but while I am focussing, adjusting the stop and setting the shutter, a herring gull has alighted nearby—my picture dissolves into a stampede of twinkling feet hurrying their small owners away at full speed.

Three wimbrel stand tall and stately among the lesser fry, but they are in a hopeless position for a photograph and after a regretful glance at their image on the ground glass I turn to other subjects.

Suddenly, in the crowd, I see a turnstone in full breeding plumage and, oh joy! he runs to a rock edge, thus giving me a sea background for his portrait. Now I have him focussed, the stop adjusted, the shutter set. Will he never keep still? Stop bobbing that black-and-white head! At last he stands motionless. The focal plane shutter descends, I have secured my trophy—a close-up portrait of a bird never known to breed in these islands.

Excited screams from overhead announce the arrival of a party of Arctic terns. Hastily I set my shutter to 1/1000 of a second with an open stop. I might 'shoot' them in mid-air, an entrancing cascade of angelic wings with a background of deep-blue sky, a picture needing colour film to portray its real loveliness.

Without warning a strange uncanny silence falls on the noisy multitude and every eye glances uneasily upwards. A shadow passes over the island—the shadow of death. Even in the seclusion of my hide I feel a thrill as the lord of the marshes, the undisputed monarch of the estuary, passes on his way—a peregrine falcon looking for his midday meal. Now I can see him as he glides past the end of the island on those sinister, bow-shaped wings, a danger signal to every bird that flies.

The banks are beginning to uncover and small parties of waders leave the island for their breeding grounds exposed by the ebb. Others remain sleeping on one leg, preening, or bathing in the rock pools left by the receding tide. A cormorant is drying his wings in spread-eagled fashion and another, still engaged in his ablutions, beats the water violently in his passion for cleanliness. I love watching cormorants; their unconscious humour is a source of endless delight.

Although stiff and hot with three hours' crouching in the hide, I am sorry the time has at last arrived for me to emerge. The startled looks of this purely avian gathering at my sudden appearance in their midst has its comic side. The curlew and small waders leave hurriedly in much confusion, but the gulls and cormorants linger, and with much grumbling depart reluctantly, leaving me to pack up my gear and wade through the knee-deep stretch of muddy tideway on my homeward journey.

My bag may, and often does, consist of only the unexposed film I brought with me. By a lucky chance I may have secured a new species for my collection or perhaps a group of common migrants in an unusual or particularly pleasing attitude; but whatever the harvest, the labour has been well repaid. I never know, when I set up my hide, what uncommon wader—perhaps one never before photographed in the British Isles—will alight within range of my lens and by a stroke of fortune will disentangle itself from its unwanted neighbours and so gain a permanent place in my collection.

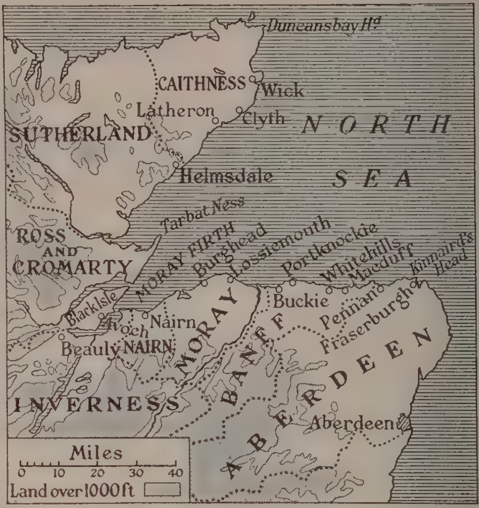
Grey plover, bar-tailed godwits, sanderling, curlew, sandpiper, these and many other northern breeders can only be photographed in these islands at migration time or in midwinter, and only on our estuaries or foreshores at the turn of the tide. In its very uncertainty lies half the charm of photographing wildfowl.

Fishermen of the Moray Firth

by PETER F. ANSON

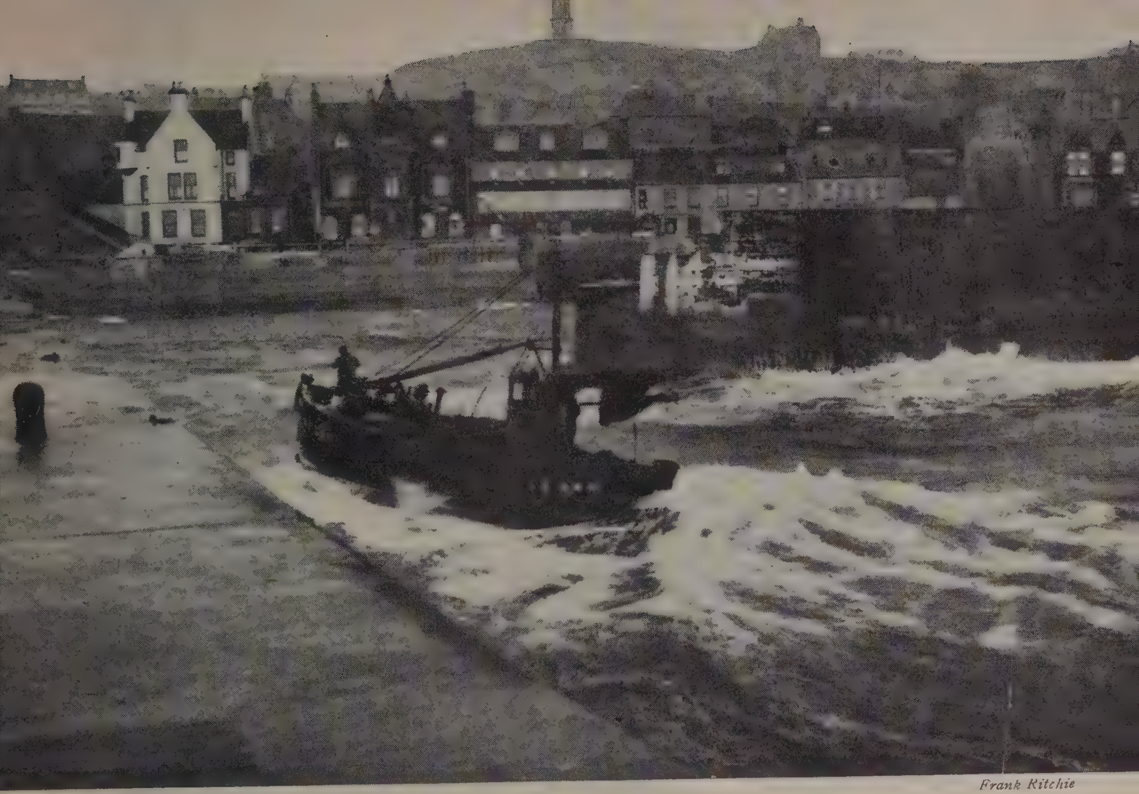
The Moray Firth is an arm of the North Sea. In a restricted sense the base runs from Lossiemouth, Morayshire, to Tarbat Ness, Ross-shire, a distance of 21 miles. In its wider meaning the Firth forms a triangular area, with its apex at the mouth of the Beauly, and the extremities of the base at Kinnaird's Head, Aberdeenshire, and Duncansbay Head, Caithness; a distance of 78 miles. Around the Moray Firth, especially on the south side, are numerous small towns and villages whose history is bound up with that of the fishing industry. The most important today are: Wick, Helmsdale, Avoch, Nairn, Lossiemouth, Burghead, Buckie, Portknockie, Whitehills, Macduff and Fraserburgh.

There is a certain affinity between all these places, though each possesses a very distinct character. It might be easier for a complete stranger to describe the 'family likeness' than for me to attempt to do so. I have known the Moray Firth coast for more than a quarter of a century and for a good many years have made my home in one of these fishing communities. The result is that I know the land and the people so intimately that it is difficult to see them from a detached point of view. But when I am away from home and try to form a mental picture of the Moray Firth coast, I see it painted in silvery greys: as a water-colour drawing with strongly defined outlines and firm shadows. The dry bracing climate has a lot to do with the picture. Mist and fogs are infrequent. We get more than the average amount of sunshine, even if the winds have a biting quality. These fishing towns and villages have little in common with those of Cornwall. They lack the romantic charm and their character is much more suggestive of frugality and thrift. The grey stone houses with their roofs of slate or tile are built four-square, long and low. What strikes most visitors is the cleanness and neatness of the houses. There is a hard look too about the people, but this hardness is no more than superficial. Underneath they are as emotional as any race in Britain, probably more so. Periodically in the past they have been swept off their feet by the stress of religious 'Revivals'. Even in normal times one has only to scratch the surface to arouse an outburst of emotion that would strike the average Englishman as almost indecent. Again, this temperamental quality has little in common with that of the Gaelic-speaking Highlanders. The Moray Firth fisher folk are predominantly Norse in ancestry, though there is a certain amount of the Celt in them as the result of marriage with families from the Highlands.



Stanford, London

The life of these numerous fishing communities centres round the harbours which are found in every town and most of the villages on the Firth. The majority were built during the last century; some have been enlarged in recent years and are up-to-date; others have been allowed to fall into ruin and are no longer used. Forty years ago these harbours were filled with a forest of tall masts and brown sails, but today the scene is very different. Sailing craft have been superseded, first, by steam drifters, and these are rapidly giving place to motor vessels. Twenty years ago when the herring fisheries were still prospering it was a wonderful sight to come down on one of the larger harbours on the south side of the Moray Firth and behold hundreds of steam drifters squeezed together like sardines in a tin, with little space between them. There was a riot of colour in their paint-work: every combination was to be seen, but reds, blues and greens predominated. Everywhere fishermen were at work daubing on more and yet more paint to funnels, buoys, capstans, ventilator cowls, or picking out with gold leaf some last detail of



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Motor seine-net boat entering Macduff harbour. Since about 1921 Danish seine-net fishing has almost entirely superseded line fishing in the larger ports on the Moray Firth, and is carried on practically all the year round

lettering on the bows. Some of the crews adorned the funnels of their vessels with elaborately painted shields, depicting a landscape or a heraldic device.

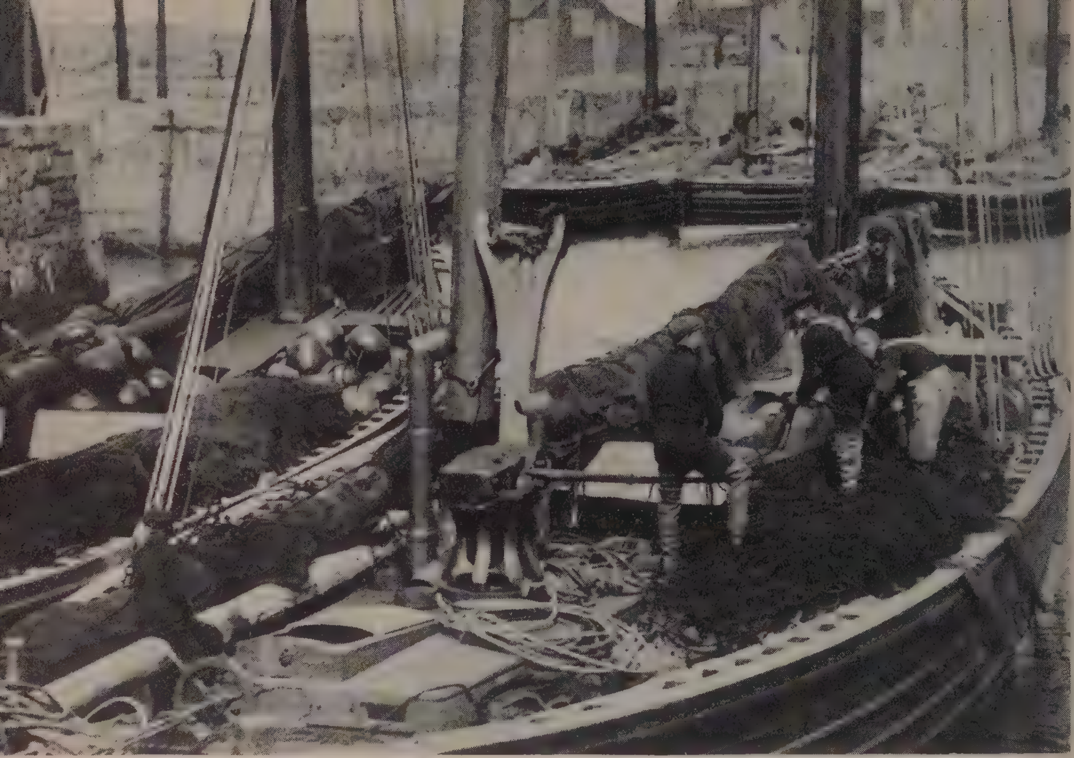
The Moray Firth fishermen have not lost their passion for colour, but there is less scope for splashing it about on the modern motor-driven vessels which have now taken the place of steam drifters in most of the ports.

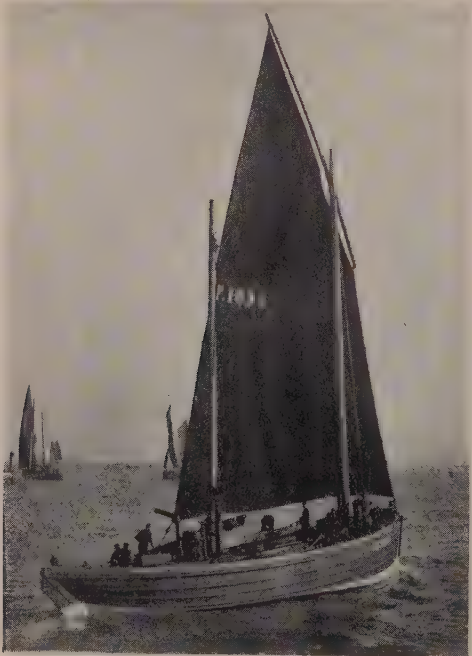
The fishermen are engaged in both drift-net and seine-net fishing—the former method being used at certain seasons of the year for herring; the latter practically all the year round for white fish. Steam vessels, known as drifters, are used for herring; motor vessels for seine-netting. The Danish seine-net made its appearance on the Moray Firth about 1921, since when it has almost entirely superseded line fishing except in a few places.

The herring industry only began to be of commercial importance after the Napoleonic wars when curing stations were opened at Helmsdale, Fraserburgh, Macduff and elsewhere. Until then the Moray Firth fishermen had regarded herring rather as a bait for white fish. The herring fisheries reached their greatest prosperity between 1900 and 1910. After the last war foreign markets were lost and prices fell, with the result that there was a sharp decrease in the number of men and women employed, and both vessels and gear deteriorated. The amount of herring landed in ports on the Moray Firth was steadily declining before the war, and far less curing was being done.

Indeed for many years before the present war the herring fisheries had been run at a loss. The total number of vessels in Scotland had decreased from 884 in 1913 to 485 in 1937, and the majority of these belonged to the Moray Firth.

The local drifters were engaged in fishing during the different seasons either on the west coast of Scotland, the Shetlands or on the east coast of England as far south as Yarmouth and Lowestoft. So their crews were





H. Jenkins

(Above) *'Zulu' and 'Fifie', herring drifters in Macduff harbour fifty years ago, when the Moray Firth harbours were forests of tall masts and brown sails.* (Left) *'Zulu', herring drifter. These magnificent vessels were common on the south side of the Moray Firth between 1880 and 1900. The few which are left have been fitted with motors and the masts cut down*

often away from home for nearly half the year.

In some cases fishermen own both steam drifters and the motor boats that are used for white fishing when herring are not in season. The vital difference between the Moray Firth fishermen and those of England is that the former are still the owners, or at least the nominal owners, of their drifters and motor boats. As the *Report of the Economic Advisory Council on the Fishing Industry*, issued in 1932, pointed out:

> In the main each Scottish boat stands by itself, and there is no pooling of results and no possibility of a loss on one boat being balanced by the success of others, as in the case of a company owning a number of vessels. This is mitigated to some extent by the fact that a small number of individuals, mostly persons on shore, have a share in several boats. The men are also

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Steam drifters in Macduff harbour. Before the war all the larger ports on the Moray Firth owned fleets of these vessels. They were engaged in herring fishing on the west coast of Scotland, the Shetlands and along the North Sea coast as far as Lowestoft, according to the season of the year

extremely conservative. The most serious limitation, for example, of the possibilities of the new type of motor drifters, fitted with semi-diesel engines, with which experiments are being made, lies in the fact that the fishermen are prejudiced against change, and in the lack of men sufficiently skilled to act as drivers and mechanics. Their spirit of independence is fostered by the organisation of the industry.

So you must picture more than 200 steam drifters belonging to the Moray Firth ports, each of them more or less independent, with a complement of nine or ten men, most of whom are usually members of the same family or related to each other. In some cases one or two hired men are carried, generally crofter-fishermen from the Highlands. The fireman, engineer and cook are paid wages; the rest of the crew receive certain shares in the earnings of the drifters.

But in 1939, so serious had the situation become that many men who had hitherto spent the greater part of the year in herring fishing had left their homes and taken jobs in Aberdeen trawlers or in the merchant service.

The men who were engaged in white fishing with motor boats were in a more fortunate position. Fish was plentiful within a few miles of the shore and markets were certain. This is even truer today; in fact the limited number of men who have not been called up for service in the Navy are earning more than they have ever done in their lives. In most ports the motor boats put out to sea every morning, unless there is a gale blowing, and are back again in port early in the afternoon. The fish is landed at once, sold on the quays and then sent off to some central market either by road or rail. Since the outbreak of war, fishing has been concentrated in the larger ports, and some of the smaller ones are closed altogether.

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(Left) *Painting the port registry letters and numbers on a fishing boat. The Moray Firth fishermen have a passion for paint and colour.* (Right) *Group of fishermen wearing the characteristic brown jumpers over blue jerseys.* (Opposite) *The launch of a modern type of motor fishing boat at Fraserburgh*

It is difficult to visualize the life of the Moray Firth fisherfolk of a hundred years ago. Not only have methods of fishing changed but also standards of living. Take Buckie for example. I doubt if there are many girls in this busy town of nearly 9000 inhabitants who know how to bait a fishing line even if they are still capable of mending herring nets. A hundred years ago no fisherman could have carried on his job without the help of his wife and daughters. For there was a saying that "no man can be a fisher and want a wife". The women used to drag the small open boats up on to the rocky shore and launch them again. Here, and in many other places where there was no harbour, wives would take their husbands in their arms and carry them to their boats and carry them back when they returned from sea. The women took the fish from the boats, gutted them and carried them to market or around the country. They baited the lines and collected heather, moss or furze for fuel.

The Buckie fishermen of the middle of the last century were a magnificent set of men physically, well built and tall, capable of enduring immense fatigue and hardships. When one sees the steam drifters in which the present generation are accustomed to work in comparative comfort, or the up-to-date motor vessels, one wonders what the crews would say if they had to venture out in little open boats, with no sort of protection against cold or wet. It was not until 1858 that the first Buckie boat was fitted with any sort of forecastle or deck. Before going to sea, a supply of barley meal, a couple of cooked haddocks, a pint of kail broth in a flagon and an onion or two—all rolled up in a cloth—were taken aboard by each member of the crew. Each man or boy had his special job to do and only in an emergency would assist each other. Those amidships had to bail out the boat, the man on the lee side having plenty to do while his shipmates looked on.

A contemporary writer gives a vivid picture of Wick in 1840.

> The herring fishing [he says] has increased wealth, but also wickedness. No care is taken of the 10,000 young strangers of both sexes who are crowded together with the inhabitants within the narrow limits of Wick during the six weeks of the summer fishing season, when they are exposed to drink and every other temptation. Fever of a typhoid kind is seldom absent, and is acute during the fishing season. There is a vast consumption of spirits, there being twenty-two public-houses in Wick and twenty-three in Pulteneytown.

The filth of the streets was indescribable. During the six-weeks summer season it was no uncommon thing for more than five

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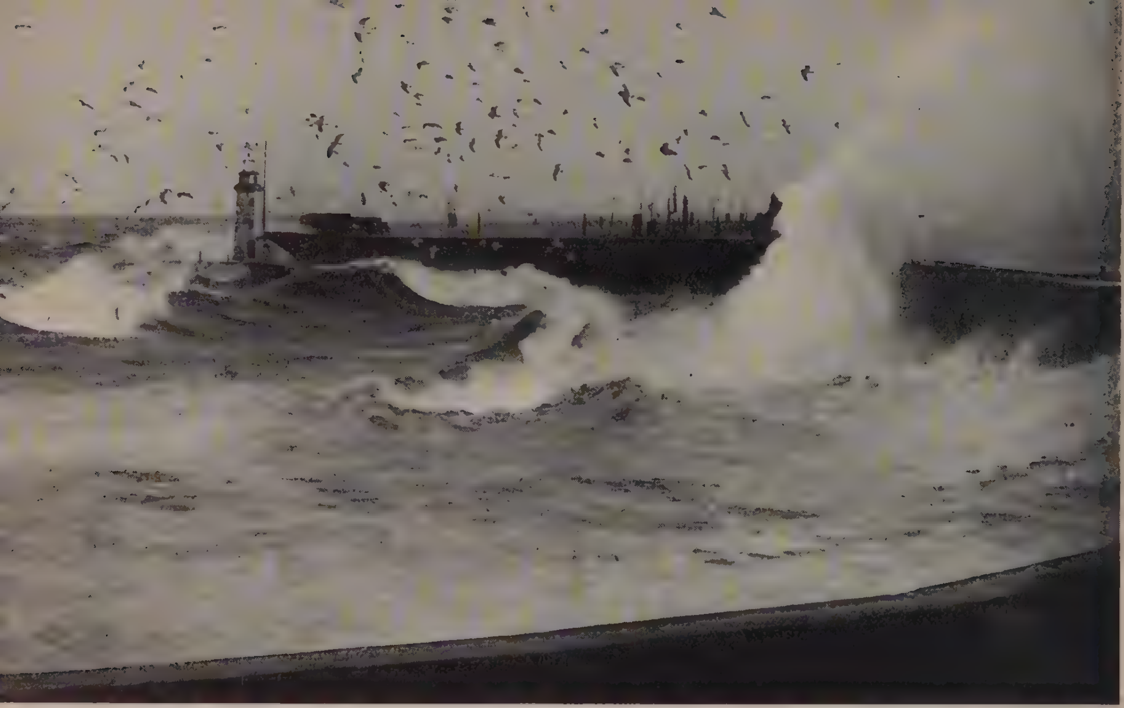
hundred gallons of whisky to be consumed in one day. Among the fishermen of that date taking snuff was more popular than smoking, which seems to have been a more feminine habit.

After the last war Wick 'went dry' and its public-houses were closed. Today the villages along the coast south of Wick are deserted, their harbours and old curing stations derelict. There are no herring drifters left in Wick itself. At Clyth, where the number of boats is now about half a dozen, there were about six hundred in 1855. It must have been a wonderful sight to watch this fleet putting out to sea on a summer afternoon or to have witnessed the return home the following morning to one of the many little creeks among the rocks where often fifty to one hundred small brown-sailed open craft would be crowded together. The fishermen used to put out to sea and shoot their nets about dusk. They were a pious and devout lot and it was the custom to "engage in worship" after the nets had been shot. A portion of a psalm was sung, followed by a prayer, and, to quote the parish minister of Latheron, "the effect is truly solemn and heart-stirring as the melodious strains of the Gaelic music carried along the surface of the waters, several boats being sometimes engaged, spread throughout the whole fleet".

At Avoch—a little village nestling beneath wooded hills of the Black Isle of Ross-shire, more suggestive of Devonshire than the north-east of Scotland—the fishermen of a century ago had a reputation for hardiness, skill and industry. Brought up on a diet of oatmeal, potatoes and fish, they were a stalwart breed, the women as strong as the men and able to carry immense burdens. They thought nothing of bearing a load of a hundred pounds of fish in a wicker creel on their backs. Just as at Buckie and elsewhere, the women of Avoch used to carry their husbands to their boats because there was no harbour and the men liked to go to sea with dry feet. They brought in the fish and gear from the boats and never objected to wading into the sea, no matter what might be the weather or the season of the year. Despite this Spartan regime there were few women in Ross-shire so cleanly, healthy or long-lived. The men were at sea all the week. Besides helping their husbands the women gathered bait, prepared the lines and cultivated hemp. Nets were made locally for other fishing villages. Even the aged and infirm worked at net-making. "Except for a few days about Christmas," writes the parish minister, "or on the occasion of a fisher's wedding, there are none but little children idle in the whole seatown of Avoch."



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There is a certain affinity between all fishing ports on the Moray Firth. Above is a typical winter day at Macduff, and, below, the same harbour on a summer afternoon, "painted in silvery greys . . . with strongly defined outlines and firm shadows". Mist and fog are infrequent and there is more than the average amount of sunshine

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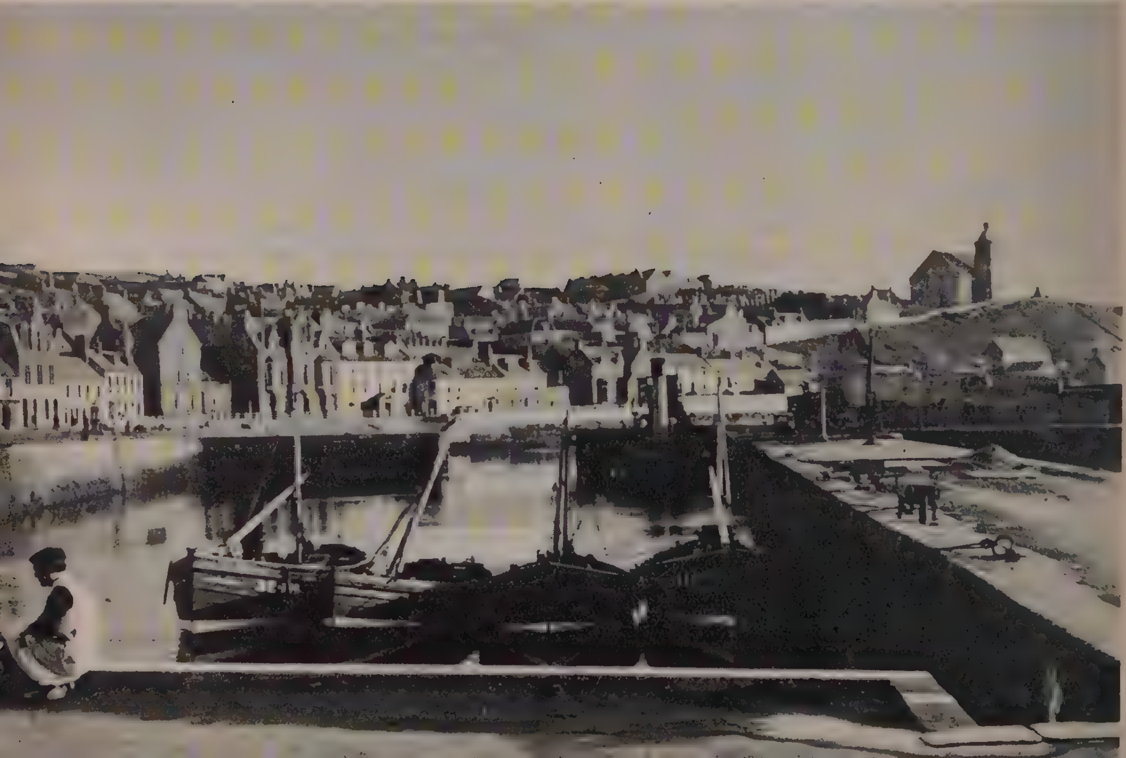

These Avoch men would venture out to sea as far as the coast of Northumberland, with neither chart, compass nor any knowledge of navigation, their small, frail craft carrying an enormous area of canvas. Their skill and alertness in setting and reefing their sails was always a source of wonder and admiration, and it was seldom that lives were lost.

Whitehills in Banffshire seems to have been almost as prosperous in 1840 as it is today, though changed in many ways. We learn from contemporary writers that the people were clean and thrifty in their habits, and the parish minister was proud to inform the readers of the *New Statistical Account of Scotland* that "in Whitehills there are twenty to thirty men who can conceive and utter an extemporary prayer with no less fluency and with little less propriety than most educated ministers". At Pennan, a tiny village hidden beneath lofty red-sandstone cliffs on the borders of Aberdeenshire and Banffshire, the fishermen do not seem to have been so pious or law-abiding as those of Whitehills, for we are told that most of them possessed guns and were frequently convicted of poaching and also given to smuggling.

Everywhere round the Moray Firth coast the boys went to sea very young and consequently got little education. By eighteen most of them had acquired a share in a boat and were married. Fishermen's weddings were wonderful affairs a century ago. Before the ceremony the kirk session exacted a pledge of a half a guinea that no rioting or fighting would take place. If, as a result of too much whisky having been consumed, there was brawling or even bloodshed, the pledge was given to the poor. But if the party managed to behave itself, the money was returned to the bridegroom the following Sabbath. Sometimes there took place what were known as "penny weddings", to which all the neighbours and their friends were invited. Each guest was supposed to contribute a small sum to the marriage celebrations. After the function had been concluded the bride used to visit her neighbours, who were bound to give her a piece of furniture or other substantial gift.

The typical Moray Firth fisherman's house of a century ago consisted of two or three rooms, with a lean-to shed for the nets and gear. Some were roofed with tiles or slates, but the majority were still thatched with turf. It was quite common in some of the smaller villages on the coast to smoke haddocks over the peat fire in the living-room. Nearly everything needed for the fishing was made at home: nets, lines, ropes, sails, creels, sculls and baskets.

Perhaps the most vivid description of the life of the fishermen on the north side of the Moray Firth during the first half of the last century is that given by Neil Gunn in his novel *The Silver Darlings*. The author was born and brought up among the fisher folk on the coast of Caithness. He tells us how the crofters who had been driven down to the shores by the lairds found themselves faced with starvation. Their cattle and sheep had been taken from them and the only hope of making a living was to catch fish. So these landsmen became seamen—against their inclination and previous tradition of living. They bought boats, nets and lines, and were the ancestors of hundreds of the present generation of prosperous fisher families all round the Moray Firth. For as time went on many families migrated from the coast of Caithness and Sutherland to the south shores of the Firth where there were better chances of earning a living. So today we find families with Highland names in the towns and villages of Banffshire and Morayshire, the descendants of those pioneer crofter-fishermen of the last century.

Although there have been great changes in the manner of life among the Moray Firth fishermen, yet even today they form a distinct community apart from the country dwellers and shopkeepers. Except in the few isolated villages where line fishing is still carried on, the women play a far less important part in the actual work than formerly. Until the war it was still customary for girls from most of the Moray Firth coast to spend the greater part of the summer and autumn away from home, engaged in the dirty and laborious job of cleaning herring for curing. In June and July most of them would go to Stronsay in the Orkneys or Lerwick in the Shetlands, later on migrating to Fraserburgh or other ports on the mainland of Scotland. During October and November they would be working at Yarmouth and Lowestoft. So the women managed to do a fair amount of travelling and thus gained insight into other folks' lives and customs. In a few places one may still see the older women tramping the countryside with heavily laden creels of fish on their backs or in baskets. But with the competition of motor transport and now the necessity of obtaining permits to sell fish, their means of earning a livelihood is fast disappearing. In a year or two the last of the fish 'wifies' may have vanished.

As to the homes of the present generation of fisher folk, it is difficult to convey an idea of their modernness, even luxury. Some of the houses give one the feeling that they are not meant for living in but only to be admired : there are many where no work is done except in the kitchen. Nearly every fisherman redecorates his house inside and out every year. There is a fierce rivalry among the women, who never seem to stop scrubbing, cleaning and polishing. Almost every front door has a brass plate with the name of the owner engraved on it. The craze for being 'up-to-date' leads to disastrous results in many homes, for it involves the sale or breaking-up of good solid 19th-century furniture and the substitution of mass-produced 'suites'.

When the herring fisheries were at the peak of their prosperity just before the last war, the more wealthy families were unable to resist the urge to erect large ornate houses. So in Buckie and elsewhere along the coast you find amazing bits of architecture which in years to come may be regarded as interesting 'period pieces'; solid mahogany front doors, at least two spacious sitting-rooms, filled with heavy furniture, staircases with elaborately carved banisters, often with a stained-glass window depicting the owner's steam drifter as the central feature; a kitchen and bathroom, and finally a spacious loft for storing the nets and gear. It is quite common to find families which live in these lofts most of the summer, for since the herring fishing declined they have been glad enough to take in lodgers.

There are still a few old houses where the traditional built-in beds have been retained, though the doors which once closed them have been replaced by curtains. But the younger generation does not approve of built-in beds. The other day a certain prosperous fisher 'wifie' happened to look around my own kitchen and was almost shocked when she noticed that the venerable bed was still *in situ*. "They're not supposed to be hygienic," she remarked. "That may be so," I replied, "but you can't beat a built-in bed on a cold winter night."

This passion for building and redecorating houses which is characteristic of the Moray Firth fisher folk, may be due to the lack of any outlet for their emotions, particularly among those who belong to the different groups of the Plymouth Brethren. The 'Brethren' flourish in nearly every fisher community along the Moray Firth coast. They are not allowed to smoke, buy newspapers (though a glance at somebody else's paper does not involve a breach of the law) or listen to the wireless. Unlike the rest of the community who are keen 'film fans', they may not patronize the cinema, and of course they are rigid teetotallers.

Taken as a whole, there are no kindlier and more friendly people in Britain than the hard-working fisher families. There is a refreshing simplicity and spontaneity about them. Despite the industrial revolution these more or less self-supporting and independent communities in the north-east of Scotland have so far managed to retain their individual personalities. But their future is precarious. Will the Scottish system of family-owned boats be able to stand up in the long run against English boats, based on shore syndicates and capitalism? What is going to happen to the once flourishing herring curing industry after this war? Will it be possible to recapture the foreign markets? If the present method of intensive seine-net fishing goes on unchecked, with no close seasons, will the Moray Firth be exhausted of its supplies? These and many other problems face the fishermen of the Moray Firth and at the moment it is dangerous to prophesy how they are going to be solved.

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Fisherman taking his bedding home at the close of the season

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